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The Avifauna of the Tamil Country

DR. N. SUBRAHMANIAN

References to the common objects of nature abound in Tamil literature. The Tamil poets have mentioned in their works the hills, rivers, trees, creepers, animals, reptiles and birds which they found in the Tamil country or of which they had heard as existing elsewhere; and while doing so they avoided the supernatural and the mythological as far as possible and faithfully delineated nature as they knew it, though the credulous could hardly avoid transmitting through their works some obviously erroneous data. Still some of these references to the flora and the fauna one comes across in Tamil literature are of considerable interest not only to the student of literature and of natural history but also to the historian. Here an attempt is made to collect the information one gets from the Tamil poets about the birds of the Tamil country.

Ancient Tamil poets considered birds as a 'Tiṇaikkarupporuḷ', i.e., the fundamental attributes of a tiṇai — one of the five natural geographical regions: *Kuṟiñji, Mullai, Marudam, Neydal* and *Pālai* and the human relations and behaviour appropriate to those regions. They treated the peacock and the parrot as belonging to *Kuṟiñji;* the pigeon, the kite, the vulture and the falcon as appropriate to *Pālai;* the wild fowl and the Indian partridge as belonging to *Mullai;* the stork, the swan, etc.,[1] as special to the *Marudam;* and the marine crows as natives of the *Neydal,* while some have treated the swan and the *Anṟil* (supposed to be the *Krauñcham*) as also belonging to the *Neydal.* This is just a kind of literary

1. "மழலை வண்டானம் மகன்றில் நாரை
அன்னம் போதா நன்னிறக் கம்புள்
குருகு தாரா." *Nāṟkavirāja Nambi Ahapporuḷ:* 23.

convention which recognizes and classifies the dominant birds of each geographical region; and the grammarians themselves were not unaware of the fact that literary rules cannot prevent the flight of birds from one region to another and so they could think of the birds as belonging to the whole country.[2]

1. *Aśuṇam:* அசுணம் (a fabulous bird).

Ancient Tamil poets mention the *Aśuṇam*. The *Aśuṇam* seems to have been endowed with an extraordinarily sensitive and discerning ear and could not bear the discordant notes of the vulgar drum of the rural folk, but could stand only the sophisticated and fine notes of the aristocratic yāḻ. Probably *Aśuṇam* hunters attracted the creature by sounding the yāḻ and killed the bird by alternating the pleasant music of the yāḻ with the harsh beat of the drum.

The *Kūrmapurāṇam* agrees with the *Piṅgala Nikaṇḍu* in referring to the *Aśuṇam* as a bird;[3] the *Piṅgalandai* equates it with the *Kēkayappuḷ* which others have treated as the peacock. The author of the *Vallī Pariṇayam* mentions[4] the *Aśuṇam* alongside other birds; and Chokkappa Nāvalar commenting on *Tañjai Vāṇan Kōvai* considered *Aśuṇam* as 'sort of birds'.[5] Some later day commentators also have agreed with this view. But there seems to have been some difference of opinion as to whether the *Aśuṇam* was a bird or a quadruped. The *Prabhuliṅgalīlai* is non-committal on this matter;[6] and Pērāśiriyar in his commentary on the *Tolkāppiyam* speaks of the *Aśuṇam* that resides on the hills but does

2. by the literary device known as *Tiṇai Mayakkam.*

3. "முரசொலி கேட்ட அசுணமென் புள்ளின் மூச்சவிந் தொருவழி தேறி": *Kūrma Purāṇam, Rāman Vanam puhunda Adhyāyam:* 6, describing Dasaratha's recovery after the initial shock he had on hearing Kaikēyi's requests. *Piṅgalandai:* 8, *Māppeyar Vahai:* 1, *Puḷ Vahai.*

4. "ஆவலுடன் சேரும் அசுணங்கா ளாலோலம்":
Vallī Pariṇayam: Aṅgam I, *Kaḷam* 2.

5. "........ மாறை வரையில் வண்டியாழ்
என்று அசுணம் இறைகொள்ளும் நாடர்":
Tañjai Vāṇan Kōvai: 225: 2, 3.

6. "விஞ்சை மாதர்தம் யாழொலி கேட்டமா வேட
ரஞ்சி லோதியர் பதலைகேட் டயரசு ணம்போ ......":
Prabhuliṅgalīlai: Gōrakkan Gati: 49.

not specify its family;[7] in his commentary on the *Marabiyal* he includes all the species called 'Mā' among mammals;[8] so he too was perhaps inclined to treat the *Aśuṇam* as a mammal. But the *Chintāmaṇi* and other works refer to the *Aśuṇam* definitely as a mammal; and the commentators on these works have plainly located the *Aśuṇam* as a quadruped.[9]

2. *Anṟil; Mahanṟil:* அன்றில்; மகன்றில் (love birds).

These two varieties of birds are famous for the constancy of their conjugal love. They are said to brook no separation between 'man and wife' and this love has become a classic theme with the poets.[10]

It is said that the *anṟil* resides in nests built on tops of palmyras, that it is dexterous in building golden nests and that its head is of reddish hue.[11] The *anṟil* has often been confused with the *Krauñcham.*

The *mahanṟil* is an amphibious bird and resembles the *anṟil* in its conjugal love.[12] This is mentioned along with the swan as a resident of the lotus.

7. "குன்றுறை யசுணம்": *Tolkāppiyam: Meyppāṭṭiyal:* 1; Pērāśiriyar's commentary: quotation beginning வள்ளெயிற்றரிமா".

8. "மாவும் மாக்களும் ஐயறிவினவே" *Tolkāppiyam Marabial:* 32

9. "இன்ன ளிக்குரல் கேட்ட அசுணமா" "*Chintāmaṇi:* 1402.
Commenting on this Nachchinārkkiniyar says:
"அசுணமா: இசையறிவதொருவிலங்கு".
"அசுணங்கொல்பவர் கைபோலன்றும்": *Naṟṟiṇai:* 304
Commenting on this P. Narayanaswami Aiyar says,
"இசையறிவிலங்காகிய அசுணமான்".

10. அங்கமிரண் டோருயிர்கொள் அன்றில்கா ளாலோலம்": *Vallī Pariṇayam: Aṅgam* 1; *Kaḷam* 2.

11. "மன்றவம் பெண்ணை மடல்சேர் வாழ்க்கை
அன்றிலும் பையென நரலும்": *Kuruntogai:* 177: 3, 4.
"முழவுமுத லரைய தடவுநிலைப் பெண்ணைக்
கொழுமட லிழைத்த சிறுகோற் குடம்பைக்
கருங்கா லன்றில்": *Ibid.*, 301: 1 to 3.
"நெருப்பி னன்ன செந்தலை யன்றில்": *Ibid:* 160: 1.

12. குறுங்கால் மகன்றி லன்ன
உடன்புணர் கொள்கை ....": *Aiṅguṟunūṟu:* 381: 4, 5.
"இறைவனுக் கிரங்கி யேங்கிச்
சோர்துகில் திருத்தல் தேற்ருள் துணைபிரி மகன்றில்
ஒத்தாள்": *Chintāmaṇi:* 302: 3, 4.

3. *Annam:* அன்னம் (swan)

This is generally deemed to be milky white in complexion and of a very timid and pacific nature. It is believed that the swan is capable of separating the milk from a mixture of milk and water; and so it has been likened to the first grade disciple endowed with a fine sense of discernment.[13] The swan is a sound connoisseur, a good judge of what is appropriate and what is not.[14] It is supposed to choose the spacious lotus flower for its normal residence.[15] The cackle of the swan reminds the poet of the jingle of the anklet.[16] The *Puram* stanza beginning '*Anna Śēval*', '*Anna Śēval*' speaks of the female swan as 'Kurumporai'[17] or 'the short-feathered one' which probably implies that the male was known as 'Nedumporai' or 'the large-feathered one'. The 'white swan' or 'the *Vellāṅkurugu*' finds frequent mention in Tamil poetry; and one of the decads of the *Aiṅgurunūru* deals with the *Vellāṅkurugu*.[18] As the *Vellāṅkurugu* is referred to as 'white-feathered' and as it is also associated with the lotus flower as its usual seat, some have treated the *Vellāṅkurugu* as identical with the swan.[19]

But Pinnattur Narayanaswami Iyer, commenting on the *Narrinai* (commencing '*Siru Vellāṅkurugē*') felt that *Vellāṅkurugu* was just 'white-feathered crane', for usually the expression

13. "........தெள்ளிதின்
ஆராய்ந்து அமைவுடைய கற்பவே நீரொழியப்
பாலுண் குருகிற் றெரிந்து": *Nāladiyār*: 135: 2 to 4. Here *Kurugu* stands for *Annam.*

14. "பானிறக் குருகின் ஆய்ந்து பண்ணவர் படிவம் கொண்டான்": *Chintāmani*: 395: 4.

15. "மென்காற் சிறையன்னம் வீற்றிருந்த மென்மலரைப்
புன்காகம் கொள்ளத்தான் போனற்போல்........": *Nalavenba*: 231.

16. "மின்னார் சிலம்பிற் சிலம்புங் குரலன்னம்": *Chintāmani*: 2890: 1.
"அரங்கி னாடுவார் சிலம்பின் அன்னநின்று
இரங்கு வார்புனற் சரயு வெய்தினர்" *Rāmāvatāram*: *Kaiyadaippadalam*: 21.

17. *Puranānūru*: 67.

18. The VI decad in the II Century of *Aiṅgurunūru* is entitled the 'Vellāṅkuruguppattu' (வெள்ளாங்குருகுப் பத்து).

19. "வெள்ளாங் குருகி னிளம்பிள்ளை விளையாட் டயாமுகையவிழும்
கள்ளார் கமலத் தடம்புடைசூழ் காழிநகரி னிடைத்தோன்றி": in praise of Sambandamurthy in *Kūrma Purāṇam*: *Pāyiram*: 5.

Kurugu indicates the long-beaked crane; further the *Aiṅguṟu-nūṟu* does not mention the 'discriminating' quality usually associated with the swan. But this very reference in *Aiṅguṟunūṟu* speaks of the *Kurugu* as different from the *Nārai* (crane) and the *Chintāmaṇi* refers to the alliance between the *Annam* and the *Nārai*;[20] so it may not be wrong to suppose that *Veḷḷāṅkurugu* was at least a species of swan. It is not as if all the swans were white-feathered; black swans were not unknown.[21] Epic poets have delighted in assigning the role of the persuasive envoy to the swan and in the *Naiḍadam* (and so the *Naḷaveṇba*) we see the swan carrying messages from Naḷa to Damayanti and back again. In the Commentary on the *Iṟaiyaṉār Ahapproruḷ*, *Mudu Kurugu* and *Muduṉārai* are mentioned, as two works of the *Śaṅgam*. If the words *kurugu* and *nārai* here mean the birds, then it is probable that they were considered different in those distant days.

4. *Āṇḍalaippuḷ*: ஆண்டலைப்புள் (fabulous bird with male human head and body of a bird).

This fabulous bird is said to rip open the skulls of dead bodies and eat their brains.[22] It is spoken of as a companion of the *kūgai* in the burial place.[23] The *Kaliṅgattupparaṇi* says that the *Āṇḍalaippuḷ* approaches the severed head on the sacrificial altar mistaking it for its kin.[24] But there seem to be instances of the *āṇḍalai* being used synonymously with the ordinary fowl

20. "களிப்பவுண்டு இளவனம் கன்னி நாரையைத்
திளைத்தலிற் பெடைமயில் தெருட்டும் செம்மற்றே": **Chintāmaṇi: 50**

21. "........தோடார் கமலப் பள்ளி
மேயவகையிற் றுஞ்சும் வெள்ளையன்னங் காண்மின்": Chintāmaṇi: 930
Nachchinārkkiniyar, commenting on this says that the existence of black swans is inferable from the mention of 'white swans.' But in English, the expression 'black swan', in figurative sense, means a 'strange anamoly', not unlike the 'white crow' of the Tamils. Modern natural history, however, knows of the existence of the black swan in Australia; it is said to have black plumage and red beak.

22. "ஊண்டலை துற்றிய ஆண்டலைக் குரலும்": *Maṇimēkalai* VI: 77
"ஆண்டலைபாட": Karaikkāl Ammaiyār: *Mūtta Tiruppadiham*: *Padiham*: 1:3

23. "அழுகுரற் கூகையோ டாண்டலை விளிப்பவும்: *Paṭṭinappāḷai*: 258.

24. "நீண்டபலி பீடத்தி னரிந்து வைத்த
நெடுங்குஞ்சித் தலையைத்த னினமென் றெண்ணி
ஆண்டலைப்புள் அருகணைந்து ....": *Kaliṅgattupparaṇi*: *Kōvil Pāḍiyadu*: 16.

(*kōḻi*) as in the *Kandapurāṇam* where Murugan is said to raise the *Aṇḍalai* flag aloft.[25]

5. *Āndai; Kūgai:* ஆந்தை; கூகை (the owl; the great horned owl).

The owl is the bird of the sombre look, seemingly wise and always looked upon as ominous. Its hoot is *alaṟudal* (screeching). It resides in the natural hollows of large and ancient trees.[26] It is a typically nocturnal bird and is singularly inauspicious if it flies into residential places or perches on housetops. These birds vary in size from the small owlet to the large sized one called *kūgai*. It stays hidden in the hollows of the old trees, in burning ghats and burial grounds on the out-skirts of villages, and startles people by its sudden hoot;[27] its hoot is onomatopoeically called 'Chuṭṭukuvi'.[28] Perunchittiranār classifies four birds as haunting burial grounds. The vulture, the *pohuval*, the crow, the *kūgai* (the large owl);[29] of these the *pohuval* is perhaps a kind of eagle.

The large owl is generally called *kūgai*[30] but it is also called *kudiñai*[31] or *kōṭṭān*. The *kūgai* is also called the *Pērāndai* (the large sized Āndai) and is quite frightful to look at especially at dusk. The *kōṭṭān* is undoubtedly the screech-owl or the great horned owl (the horned owl—-bubo Bengalensis); it develops two thick horns on either side of its head which add to its generally frightful features. The horns resemble that of the Rhino and are quite strong. The *Kōṭṭān*, may be therefore, taken to derive its name

25. "ஆண்டலை யுயர்த்தவன்":
Kanda Purāṇam: Deivayānai Ammai Tirumaṇappaḍalam: 7

26. "பொத்திலத் துறையு மாந்தை": *Chintāmaṇi*: 1395.

27. "முதுமரப் பொந்திற் கதுமென வியம்பும்
கூகைக் கோழி யாணத், தாழிய
பெருங்கா டெய்திய ஞான்றே": *Puṟanāṉūṟu* 364.

The expression *Kūgaikkōḻi* has earned the name 'Kūgaikkōḻiyār' for the poet.

28. "பொத்த வறையுட் போழ்வாய்க் கூகை
சுட்டுக் குவியெனச் செத்தோர்ப் பயிரும்
கள்ளியம் பறந்தலை": *Ibid.*: 240.

29. "கவிசெந் தாழிக் குவிபுறத் திருந்த
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வாய்வன் காக்கையும் கூகையும் கூடி": *Ibid.*: 238.

30. "பகல் வெல்லுங் கூகையைக் காக்கை": *Kuṟal*: 481.
"குன்றக் கூகை குழறினும்": *Kuṟuntogai*: 153.

31. "குடிக்குடிஞைக் குடிப்பாக்கத்து": *Porunarāṟṟuppaḍai*: 210.

from the fact it has '*kōḍu*' (*kōḍu*: *kombu*: horn); but Pērāśiriyar, the commentator on the *Tolkāppiyam, Marabiyal,* seems to think that *kōṭṭān* is so called because it resides on 'branches' of trees (kōḍu: branch) taking his cue from Tolkāppiyar himself who speaks of the 'kūgai living on trees'.[32] This derivation is clearly wrong; the root '*kōḍu*' in '*kōṭṭān*', means 'horn' and not 'branch'. This horned owl is also called *ūman* and that variety is called '*ūmakkōṭṭān*', possibly because it is mostly silent and rarely hoots. The horned owl is noted for its specially horrible hoot called 'Iraṭṭudal'. Another kind of *kōṭṭān* is '*kurāl*'.[33] It is inauspicious for the *kūgai* to hoot during day time. Some of them reside in caves in rocks. The hoot of the *kuḍiñai* resembles the noise of the 'Tuḍi' (the diminutive double drum looking like an hour-glass) and the Āhuḷi[34] (another variety of small drum).

6. *Kampuḷ*: கம்புள் (a kind of water fowl).

The *Chūḍāmaṇi Nikaṇḍu* calls it the *Vānambāḍi* (the sky lark), though the identification seems to be wrong. The lexicon equates it with the *Kānamkōḷi* on the authority of the *Divākaram,* and calls it 'the grey jungle fowl'. It is clearly a water fowl, as its very name indicates (kam: water; puḷ: bird).[35]

32. "மரம்பயில் கூகை": *Marabial*: 68: 2. Of course, both the meanings, 'horn' as well as 'branch', of the word 'kōḍu' ultimately derive from the idea of 'branching off from a stem'.

33. "பலவுண் பொருந்திய குராலின் குரலும்": *Maṇimēkalai*: VI: 76.

34. "விரல் ஊன்று படுகண் ஆகுளி கடுப்பக்
குடிஞை இரட்டும் நெடுமலை யடுக்கம்": *Malaipaḍukaḍām*: 140, 141.
"கொடுங் காந்தண் மலர் நாகத்துத்
துடிக் குடிஞை": *Porunarāṟṟuppaḍi*: 209, 210.

35. "கம்புட் கோழியும் கனைகுர னாரையும்
செங்கா லன்னமும் பைங்காற் கொக்கும்
கானக் கோழியும் நீர்நிறக் காக்கையும்
உள்ளும் ஊரலும் புள்ளும் புதாவும்
வெல்போர் வேந்தர் முனையிடம் போலப்
பல்வேறு குழூஉக் குறிபாந்த வோதையும்":
Silappadikāram: X: 114 to 119.

Aḍiyārkkunallār commenting on this passage identifies *uḷḷu* as *uḷḷān,* ūral as *kuḷuvai* and *puḷḷu* as *Kaṇantul Puḷḷu* and says that *puḍā* is a corruption of *pōḍā* and means by *Marakkāṇārai,* a large heron; *uḷḷu* is common snipe.

"பூணி கம்புள் தாழ் பிலிக் கனைகுரல் நாரை": *Chintāmaṇi*: 2108

Here Nachchinārkkiniyār says that *Pūṇi* and *Kampuḷ* are obsolete names.

"கம்புட் சேவல் கனைகுரல் முழவா": *Maṇimēkalai*: IV: 12.

7. *Kākkai, Kāri, Śiruveṇkākkai, Alaikkākam*: காக்கை, காரி, சிறு வெண்காக்கை, அலைக்காகம் (the crow, the king crow, the greyish crow, the marine crow).

Crows are of numerous varieties, though the noted 'scavenger', whose harsh cawing none could have missed, is the commonest. It is so usually black that "the white crow' is supposed not to exist, like snakes in the polar regions; and so it is called 'karum-piḷḷai'.[36] But this belief like many others is not quite correct, and the common crow has an ashy belt around the neck which redeems it from total blackness; (the raven, of course, has no such redemption). The crow is the traditional enemy of 'the horned owl'.[37] The *Pañchatantra* has a big story about an epic struggle between the crows and the owls.[38] The cawing of the crow seems to resemble the noise of the dimunitive cane drum called 'kuḷiri'.[39]

The belief that the crow's caw brings guests is at least as old as the *Aiṅguṟunūṟu* and the *Kuṟuntogai*;[40] and the crow itself rarely takes its repast without first summoning its guests to share the pleasures of its table.[41] Hence, it would appear that what was originally meant by saying that 'the crow's cawing invites guests' is that the invited guests are fraternal crows and not human guests. The misunderstanding of the phrasing seems to have led to the superstition. The crow is the theme around which many proverbs have been woven. "Even to the crow its young ones are golden ones".[42] "One stone chases away a thousand crows".[43]

36. "அலர்கதிர் கரும்பிள்ளை மடுப்ப": Chintāmaṇi: 1252.
37. "பகல்வெல்லும் கூகையைக் காக்கை": Kuṟaḷ: 481.
38. "கடத்திடைக் காக்கை யொன்றே யாயிரங் கோடிகூகை
யிடத்திடை யழுகச் சென்றுங் கின்னுயிர் செகுத்த தன்றே":
Chintāmaṇi: 1927.
39. "வனமார் குடிஞைப் பகைக்குர லாம்என வாணன் தஞ்சைப்
புனமார் குளிரிப் புடைப்பொலி யால்கிள்ளை போயின........":
Tañjaivāṇan Kōvai: 73.
40. "மறுவில் தூவிச் சிறுகருங் காக்கை
வெஞ்சின விறல்வேற் காளையொ
டஞ்சி லோதியை வரக்கரைந் தீமே": Aiṅguṟunūṟu: 391.
"விருந்து வரக் கரைந்த காக்கையது பலியே": Kuṟuntōgai: 210.
41. "காக்கை கரவாக் கரைந் துண்ணும்": Kuṟaḷ: 527.
42. "காக்கைக்குத் தன்குஞ்சு பொன்குஞ்சு": Proverb.
43. "ஆயிரங் காக்கைக் கோர் கல்": Proverb.

The crow is a bird of omen; it is believed that it is good omen for a crow to fly from the left to right and evil if the reverse happens.[44]

The *kāri* is also called the *Karikkuruvi*—the black sparrow. It is also a bird of omen. The *kāri* and the parrot among birds like the squirrel among the rodents and the cocoanut tree among the flora are called *pillai.* The *karikkuruvi* is darker than the common crow and comparatively the crow is a 'fairer bird'. *Valiyan* is another name for the *kāri;* and perhaps there is a view that the *kāri* is the 'raven' that croaks ill omens. The *valiyan,* however, is the king crow occasionally but wrongly identified with the *Bhāradvājam,* which is only an ashy white over-sized sparrow.

The *Śiṟuveṉkākkai* is a variety of greyish crow that haunts the sea coast. The *Aiṅguṟunūṟu* has a decad entitled *'Śiṟuveṉkākkaippattu'.*[45] This bird hovers over the backwaters for its fish; its colour is slightly greyish and its mouth is reddish.[46] There is reference to the *Śiṟuveṉkākkai* in three places in *Kuṟuntogai;* the annotator to the work, Dr. U. V. Swaminatha Iyer seems to equate this *Śiruveṉkākkai* with the common crow; that would appear to be a wrong identification because of the reference to this particular variety of birds as *'Śiṟuveṉkākkai'* in many places as if it were a species by itself; it seems this variety haunts the sea coast only.

44. "*விரவார் மணிநிரைக் கட்சியுட் காரியெழும்*":
Puṟapporuḷveṇbā mālai: Vetchi:
Vetchi Aravam: Veṇba:
"*கட்சியுட் கார் கடிய குரலிசைத்துக் காட்டும்*":
Śilappadikāram: XII 124.
"*வானீண்ட கரிக்குருவி வலமிருந்தே யிடமேகிற்*
கானடையாச் சென்றோர்கள் கனகதண்டி யேறுவரே":
Popular Song.

45. Every stanza in this decad begins
"*பெருங்கடற் கரையது சிறுவெண் காக்கை*".
"*பெருங்கடற் றிரையது சிறுவெண் காக்கை*
களிற்றுச் செவி யன்ன பாசடை மயக்கிப்
பனிக்கழி துழவும்........": *Kuṟuntogai:* 246.
"*பெருங்கடற் கரையது சிறுவெண் காக்கை*
நீத்துநீ ரிருங்கழி யிரைதேர்ந் துண்டு
பூக்கமழ் பொதும்பிற் சேக்கும்": *Ibid.,* 313.

46. "*சிறுவெண் காக்கைச் செவ்வாய்ப் பெருந்தோடு*": *Ibid.,* 334.

Kānakkākkai is perhaps the wild jungle crow and resembles the raven. Its wings are said to resemble the flower of the 'iruvātchi' (the tuscan jasmine).[47]

Alaikkākam is the marine crow which flies over the sea far and freely.[48] It is called the *'māpparavai'* perhaps because it is a black bird (*Ma*: black).[49]

8. *Kiḷi, Pūvai*: கிளி, பூவை (parrot, parakeet; bush myna)

Parrots are of many kinds. But the Tamil poet's darling is the green parrot with a red circle around the neck and the proverbially hooked scarlet beak;[50] it can articulate almost like a human. Women sent out the parrots as messengers to their lovers; conventional pictures placed a parrot on the forearm of the young maiden; the lovelorn girls taught their parrots to speak the praises of their lovers; poignant situations arose when these parrots repeated lover's private conversations to strangers.

The parrot, like the peacock, the swan and the bushmyna, is caged, fed and brought up fondly especially by women in houses; the caged parrot is fed on 'toṇḍai' (kōvai: the thorny caper) fruits and milk.

(To be continued)

47. "கானக் காக்கைக் கலிச்சிற கேய்க்கும்
மயிலைக் கண்ணிப் பெருந்தோட் குறுமகள்" *Puranānuru*: 342.

48. அலைக்காகம் மலைச்சாரற் பலாச்சுளையைக்
கவ்வியெழுந் தரக்கர் கோமான்
சிலைத்தாச ரதிமனையைக் கொண்டகன்றா
லெனவங்கம் சேருமந்நாள்
நிலைப்பான மதிலிலங்கை மிசைத்தாவு
மநுமனைப்போல் நீள்வால்மந்தி
மலைப்பானின் றலைத்தோணி பாய்ந்துழக்கி
மீண்டெய்தும் வாழ்வுமங்கண்": *Kāñchippurāṇam*: *Tirunāṭṭuppaḍalam*: 136.

49. "எங்கும் போய்க் கறைகாணாது
எரிகடல் பாய் மீண்டேயும்,
வங்கத்தின் கூம்பேறு மாப்பறவை போன்றேனே."
Kulaśekharar Pāśuram.

50. "செந்தார்ப் பைங்கிளியார் சென்றார்க்கோ ரின்னுரை
தந்தாரேற்றந்தாரென்னின்னுயிர்": *Chintāmaṇi*: 1036.
"கிள்ளை,
வளைவாய்க் கொண்ட வேப்ப வொண்பழம்
புதுநாண் நுழைப்பான் நுதிமாண் வள்ளுகிர்ப்
பொலங்கல பொருகா சேய்க்கும்" *Kuruntogai*: 67.

Suggestions to Research Schools and Lexicographers in Tamil and Dravidology

H. S. DAVID

(*Continued from page* 246, Vol. 12, *Nos.* 2 & 3, *April-Sept.* 1966)

The 14*th Word-root and its group*: cil. note that this and the previous one are adjectival roots.

The 14*th Word-root and its group*: cil. Note that this and the repetition "parpala", so the latter becomes "circila" = a few here and there. In combinations with a following word which begins with a nasal, it becomrs "cin", as at Tol. Por. *சின்மென் மொழியாற் றாய பனுவலொடு*, according to the text given us by Pēraciriyar. Note that the same change happens to "mel", which in a nearby line remains "mell"-icai but here becomes "men" moli. About the origin of "panuval" in the above-given line, there are various opinions. Mr. V. K. Sivaprakasam in Tamil Culture X, 2, page 78, footnote, cites with approval the old commentary on PN. which states that this term means a book dealing with good conduct, "taruma nūl": but in the time of Tolkāppiyam there were few works of this description. Hence I am inclined to derive the word from "pal + nuval" = speaking of several things. Note the force of "*nuval*" in this clear prose passage from Mr. Sivaprakasam himself:—

சொல் அழகாலும், பொருள் அழகாலும், நுவலுந்
திறனும் பல் ஆற்றனும் கற்போர் உள்ளத்தை ஈர்க்கும் ......

= alluring the heart of the readers ...... by skilfullness of the narration. On the other hand, it is possible that "panuval" first meant "cukirnta pañcu" i.e. cotton, and later was applied to a literary work, just as "nūl" first meant "thread" and then "a book".

Other mutations of "cil" are ciṟu, cīṟ (as in cīṟ-iyāḻ) cirr–inpam, ciṟum-ai etc. of NNV. 88a *சிற்றின்பம் சில் நீரதாயினும் அஃதுற்றார்.*

Here I have two remarks to make as regards the differences between the two stages of Tamil, the one at about the time of Christ and the other in the second millennium after Christ. In the former, the initial syllable of a dissyllabic or trisyllabic word was long, as in these cases:—

āy-iṭai = during *that* interval, Tol. Por. II8c, etc.

cīṟ-iyāḻ = a small harp, Puṟa N. 109:15; 127:1; 144:2; 145:5; 146:3; 147:2; 155:1; 308:2; 316:7 etc. See supplementary note 1a.

nīḻal = a shadow, shade of trees, Kṟt. 187:3 etc.
pūcal = a commotion, turbulence, storm, Kṟt. 29:5 etc.

vāval = a bat (the mammal), Kṟt. 172:1; Naṟṟ. 218:3 etc.

In the latter, the initial syllable is shortened: avviṭai, ciṟuyāḻ, niḻal, pūcal, vavvāl. Note that in Telugu the long vowels "ā, ī," are still the demonstratives, as they were in Old Tamil, and that Malayalam still uses the word "vāval". The second remark is apropos of my next word, the 15th, where I claim that "kol-untu" became konṉṟu. I base it not only on (1) the numerous instances of the incidence of such verbs as "pāyuntu" in PN. which I shall cite in the seventh section of this essay, but also on (2) the prevalence of "unnu'" in the same position in Malayalam, (3) of "untu" > utu, where the nasal has dropped out, just as "iṉṟāṉ" > -iṟāṉ, in mod. Tamil at least of the Jaffna Peninsula, e.g. svāmi pōkutu = Father is going, and (4) "undu" in Tel. e.g. nāku tōst-undu = it appears to me. Note that Tel. employs the older auxiliary verb, whereas mod. Tamil says eṉakkutōṟṟkiṉṟatu.

The 15th root and word-group: kol = to kill etc.

Another interesting monosyllabic root of this nature is "kol". It has several homonyms. Some of them are the

Kol^{1}, claimed by some to be related in Sanskrit "khalu", is a particle of emphasis or interrogation, as at Kuṟaḷ 2a:

கற்றதனால் ஆய பயன் என்கொல்?

Sometimes it is joined to a similar particle, ō., as at Kuṟaḷ 99, 1171: *எவன் கொலோ?* (evaṉ kolō?) = Oh! how? Paḻ.

83b has e̱n kolō? = Oh! what? kol² = to kill, whence kolai = murder, killing, Nāl. 81b. I have already mentioned the particle "untu", which was added to many verbs in PN., to make a verbal stem into a finite verb (most often) and at times the viṉai eccam. I have also shown how "uṇṭu", though most often used as a finite verb, is sometimes a noun, as at Nālaṭi d, "uṇṭu āka vaikkaṟpāṟṟaṉṟu" and in the cited *stanza* "uṇṭu āya pōḻtu . . ." *Similarly, *kol-untu* > *Kolntu by the process of syncopation, which I have already explained > koṉṟu is a finite verb, viṉai eccam, or verbal noun, according to the context. In this Nālaṭi stanza, 186, it is a verbal noun :—

கருநரையைக் கொன்றன்ன இன்னா செயினும், சிறியார்மேல்
ஒன்றுனுந் தோன்றா கெடும்.

koṉṟu aṉṉa = like killing. Kol³ = to cultivate, dig up, whence "kollai" = a garden, as at Nālaṭi 283b-c :—

கொல்லைக் கலாஅற் கிளிகடியுங் கானக நாட!

Kol⁴ = smithy, [whence kollaṉ,] as at NNV.14c-d:—

கல்லும் தகரும். தகரா, கனங்குழாய்,

கொல் உலைக் கூடத்தினால்.

or at Paḻ. 73c-d

கொற் சேரி துன்னூசி விற்பவர் இல்.

This reminds one of another proverb in the same work, Paḻ. 31d:—

பாண்சேரிப் பல்கிளக்கும் ஆறு.

The 16*th. root and word-group*: nāl. This is an adjectival root.

Nāl = four, but at times = several, as the phrases : "nālu viṉaikaṭai muṭittēṉ," "nālu kāriyaṅkaḷai kkuṟittu" etc. The Tamil nāṉku, nālu, Tel. nālugu = four, Sanskrit nānā (= several, variuos), compound Tamil words, like nāṟkāli = a chair, etc. are all derived from Tamil "nāl" or its kin.

The 17*th. root and word-group*: pol = to shine.

Pol = to shine, appear fine or good. Hence the words : polivu, poluku, policai, "polam" in the phrase "polam tār mārpaṉ" = the one whose chest bears a shining necklace or a golden garland. Gradually "polam" was pronounced as "polm" and then as "pon" = gold. The sense is exhibited in the positive in 'poṟpu" = ap-

pearing good, and in the *negative* in "pollātu" = the opposite, as at Pal. 31a-b (i.e.: the first two lines of this stanza):—

பொறற்பவும் பொல்லாதனவும் புனைந்து இருந்தார்
சொற்பெய்து உணர்த்துதல் வேண்டுமோ ?

The 18th. root and word-group: val = strong. This is an adjectival root.

val (= strong) is one of the few words in Dravidian which have a chance resemblance to Latin words, in this case "*validus*, valide > valde". The Tamil word passed into Sanskrit as bala; confer balātkāra = force. It returned into Tamil as palavan (= a strong man), palam, pelam, pelan = strength. The original "val" is found twice in the same line of one Naḷaveṇpā stanza, which concludes with a useful lesson:—

வான்குருவியின் கூடு வல்அரக்கு தொல்கறையான்
தேன்சிலம்பி யாவர்க்கும் செய்அரிதால் — யாம்பெரிதும்
வல்லோம்என வலிமை சொலவேண்டாம் காண் !
ஒவ்வர்க்கும் ஒவ்வொன்று எளிது.

Along with "valimai" = strength, there was "valumai", which as usual, turned into "vanmai" = hardness. When the watery expanse recedes at low tide and the *hard dry* soil appears, we call it "varru" = low tide, *lit. desiccation, drying up.* If this drying up is done over a fire, we call it "varu" = to fry, bake. If the whole land is parched up by the hot sun during a *terrible drought* it is termed "varpam", as at Pal. 70 a-d.

ஒற்கம் தாம்உற்ற இடத்தும் உயர்ந்தவர்
நிற்பவே நின்ற நிலையின்மேல் — வற்பத்தால்
தன்மேல் நலியும் பசிபெரிது ஆயினும்
புன்மேயது ஆகும் புலி.

The 19th. root and word-group: eḷ = the sesame seed. This is a nominal root.

We now return to the retroflex medial (iṭaiyinam) "ḷ". While reading through Cēna varaiyar's commentary on Tolkāppiyam, Col. 74c, Vērrumai, 13c,

"அதனிற் கோடல் அதனொடு மயங்கல்",

I found to my surprise these words, as an example of this "mayangal" or mixture:—

"எண்ணொடு விராய அரிசி". ஒரு நிகரன அல்லா எள்ளும் அரிசியுங் கலந்திருத்தல் "அதனொடு மயங்கல்" என்ற தொடரை விளக்குகின்றது.

This statement is mainly concerned with the mixture of sesame with rice. What strikes one here is the equation that the Commentator makes between "eṇ" = number and "eḷḷu or eḷ", the sesame seed, from which the oil, which is called, "gingili, jinjili" in English (W. & R. Chambers' Dictionary, page 447) "jinjali" in Hindi, "juljalan" in Arabic and *"nal eṇṇai" in Tamil,* is crushed out. The Tamil phrase means not only good oil but the *"real oil"*, the oil "par excellence". Does this give us a hint that we are to postulate that the tiny "sesame indicum" seeds were the ones employed by the early Tamilians for learning Arithmetic in a concrete way, as I learnt with tamarind seeds. If that be so, if they actually ascended from "eḷ" (= the seed) to "eṇ" (= Arithmetic), that would kill two birds with the same stone; that would prove the validity of my first two rules: (1) they would have ascended from the concrete to the abstract, from the physical to the metaphysical; (2) *thē primacy of the monosyllabic root ending in the medial consonants* (l, ḷ, and ḻ), which alone I am discussing in this part of my essay, has again been vindicated.

Take again the *verb*, "eḷ" or "eḷḷu" = to despise. Just a moment's reflection will tell you that this connotation is merely the result of the tininess of the sesamum seed. Hence "eḷḷu" came to mean "consider a person as trivial or as small as that seed". Does not the English verb: "don't trifle with me" arise from the noun "a trifle, a trivial matter"? That is the connotation of "eḷ" at Nālaṭi, 349d, *எள்ளுவர் கீழோர்* = the base ones are those that despise others; while the "cāṉṟōr" value every living being. Nālaṭi and Paḻamoḻi have several of such pithy statements that match the Tirukkuṟaḷ itself for the depth of insight into human character that they equal the "Annales" "Germania" and other works of the epigrammatical historian in Latin, Comelias Tacitus, for their conciseness.

The 20th. root and word-group: oḷ = to shine.

oḷ = to shine, to be bright or lustrous. This has been sufficiently discussed by G. U. Pope, in his "Nālaḍiyār", 1893, page 318, with all the citations from Nālaṭi. With "oṇ poruḷ" there, compare its incidence a Paḻ. 81a and elsewhere. Nāḷ. has "oṇ poruḷ" at 102a, 195c, 386b, and "īṭṭiya oṇ poruḷ" at 280a. The latter phrase occurs likewise at Paḻamoḻi 81a. "oṇ" is from "oḷ".

The 21*st.* and the last root and word-group : viḷ = to separate.

Even the short dissyllabic noun "vīṭu" or the parallel verb, "viṭu", formerly "vīṭu" [= to let go, to release], can be traced to the original base that ends, as I have here postulated, in the medial sound "ḷ", one of the iṭaiyiṉam, which are *fundamental to Tamil morphology.* In this case, the base is "viḷ" = to open out, separate, etc. I recommend to the reader pages 429 and 430 of Pope's work that I have just cited. I am happy that he traces Sanskrit bilva, Tamil viḷā, Malayalam viḷā, Kanarese beḷavu, beḷa, which designate the wood-apple, Feronia elephantum, to this identical root. The innate friendliness and sociability of the Tamilians that have so far prevented Ceylon from becoming another Cyprus is brought out clearly in this maxim or adage, which is embeded in Nālaṭi 76d: விலங்கிற்கும் விள்ளல் அரிது = "separation is hard even to beasts". The modern Tamil word for "viḷḷal" is "viṭal" or "viṭutal". Kindly note the ḷ/ṭ alternance. Please read the whole stanza. Let the reader consider the fact that the word which has "ḷ" in its basic root is always the earlier form, while that which has "ṭ" is always the later.

I should think that by now I have clearly established the complete soundness and ready applicability of my first two rules. My third rule stresses the significance of searching for *adjectival and adverbial roots* in Tamil as well as in the other Dravidian languages. Their comparative importance is borne out by the fair number of *qualifying words* among the 21 roots that I have called almost at random, somewhat in the nature of a Gallup Vote. There is no compelling reason in general linguistics or in the special field of Dravidian etymology why all roots should be either nominal or verbal. *The fourth rule* is almost self-evident. None could claim to be a Hebrew scholar, unless such a one had an adequate knowledge of the Old Babylonian of Hammurabi's time, circa 2,000 B.C., of the later syro-Chaldeeic or Aramaic from the 6th century B.C. to the time of Jerusalem's destruction in 70 A.D., of Syriac, of the Assyrian of Sargon's time, 721 B.C., of Arabic and of the Semitic tongues spoken by the later Hittites and by the later Sumerians. In the same manner, for a relative mastery of Tamil, a sufficient grasp of her sister tongues, and that at their earliest stage, preferably from inscriptions or literary documents, is absolutely indispensable.

§ 7. *Un and Untu*

In mod. Tam. "um" appears as an isolated particle, as regards its origin and meaning; but in O.T. it has its collaterals: un, untu, una, unar, etc. Perhaps this is the most prominent difference between the two stages of Tam. Hence it is worthwhile to examine this feature at some length.

A. The instances where "*un-a*" occurs in the ancient texts:—

aṭukk-un-a, Tol. Col. 233b, 429b.
*aruna > ārna, Patiṟṟ. 13:6.
āk-una, Tol. El̤. 151v, 158d, e, 400a; Col. Col. '4d, ..9a, b, c, d, e, Naṟṟ. 55:12.
ārk-una, AN. 340:15, where the comm. equates it to uṇp-aṉ-a:

"மிதவை மா ஆர்குந" = கூழினைக் குதிரைகள் உண்பன,

kaṟukk-un-a, Kalit. 13:13.
kēṭk-un-, Tol. Por. 512:5.
ceyk-un-a, Tol. Col. 250 a and h.
coll-un-, Tol. Por. 512:5.
tak-un-a, Tol. Por. 231:1, AN. 63:9; 131:13; 267:1; PN. 41:7.
taṭukk-un-a, Patiṟṟ. 13.4.
tapp-un-a, PN. 189:8; also tapuna, Patiṟṟ. 32:8.
tolai-y-un-a, Naṟṟ. 390:11.
niṟaikk-un-a, AN. 11:13.
paṭ-un-a, PN. 209:12; Porunarāṟṟuppaṭai 60; Perumpāṇ. 456.
*piral̤-un-a > piral̤na, Patiṟṟ. 13:1.
peṟ-un-a, AN. 34:10; 374:16.
por-un-a, PN. 42:18; 137:12. 209:6; 375:10; Patiṟṟ. 21:29; Porun. 3; Muruk. 276.
*makil̤-un-a > makil̤na, AN. 16:17; 266:9; 376:1.
mik-un-a, Tol. El̤. 158d, 159ae.
var-un-a, Tol. Col. 250 c, e, f,.
vitt-un-a, Patirr. 13:2.

B. Some instances of "*un-ar*" in the ancient texts:—

akav-un-ar, AN. 97:11; 152:4; 208:3.
aṇik-un-ar
alk-unar, Tol. Por. 146:7-8, Nacc. citation; Kalit. 23:11.
aṟik-unar, Tol. Por. 146:23, Nacc. cit. 1.
aṟiy-unar, PN. 102:4; 154:2; 224:5; Naṟṟ. 42:7; 309:7; 391:13; Kuṟiñcip. 4; Patiṟṟ. 26:4.

aṟaiy-unar, Kalit. 30:16.
āṭ-un-ar, PN. 29:24; 221:2; Paripā. 9:61 and 64.
ikaḻ-unar, AN. 25:12; PN. 21:12; 56:13; Mpṭu. 73.
iyaṅk-un-ar, Kalit. 2:7.
ik-un-ar, PN. 235:17.
ucav-unar, Kṟt. 269:2.
uṇṇ-unar, AN. 2:2; Mpṭu. 445.
uṭal-unar, AN. 138:6, PN. 17:36; 122:1; 201:19; Patiṟṟ. 90:21;
aḷḷunar, AN. 29:19; 72:17; 231:8; Patiṟṟ. 13:19.
uḷamp-unar, Kalit. 23:1.
uṟunar, AN. 71:11; Naṟṟ. 94:9.
uraiy-unar, Kṟt. 65:4 > urainar, Kṟt. 145:4; AN. 67:18; PN. 163:1.
iraṅk-un-ar, AN. 75:15.
*ular-un-ar > ularnar, Paripā. 9:63.
ūkk-unar, Patiṟṟ. 71:11; 13:18.
ūṟ-unar, Cilap. 5:55.
eḷḷ-unar, PN. 303:3.
eṉṉ-unar, AN. 8:18.
oṉṟ-unar,
ōccunar, Maturaik. 321.
ōpp-unar, PN. 29:13; Cīv. 496d, 847a; Paṟipā. 1:58.
kaṭ-av-unar, Kṟt. 118:3; Cilap. 5:54.
kaḷaiyunar, Kuṟ. 879; AN. 365:8.
kāṇ-unar, Kṟt. 136:5; Naṟṟ. 216:2; AN. 16:8; Kalit. 139:20; Maturaik. 597.
kuyiṟṟ-unar, Cilap. 5:46.
kuṟ-unar, Kṟt. 178:3; Perumpāṇ. 295.
kūv-unar, Paripā. 9:65.
kūṟ-unar, PN. 72:1; Kalit. 30:8; Patiṟṟ. 11:25.
keṭ-unar, Kṟt. 130:5.
kēṭk-unar, Kṟt. 29:7; 86:3; Tol. Por. 508:2.
koyy-unar, Aiṅk. 311:1.
koḷḷ-unar, AN. 90:13.
ciṉav-unar, Cīv. 466a.
cuṭṭ-unar, AN. 72:8.
cūṭ-unar, Kalit. 23:13; Tol. Por. I, p. 715, Nacc. citation.
cepp-unar, Kṟt. 98:2.
cell-unar, AN. 151:12; 395:12
ceṟikk-unar, PN. 378:15.
ceṟ-unar, Naṟṟ. 50:9; AN. 46:11; 66:3; Maruk. 5, 99; Kuṟ. 488a.
cērtt-unar, Cīv. 83c.

coll-unar, Naṟṟ. 68:6.
takaikk-unar, AN. 46:16.
tapp-unar, Patiṟṟ. 17:2.
tar-unar, PN. 35:32; Patiṟṟ. 13:24; AN. 75:16; Maturaik. 535.
tāṅk-unar, Perumpāṇ. 18; Patiṟṟ. 51:29; 55:20.
tuñc-unaṟ, AN. 158:10.
tuḷḷ-unar, Kalit. 4:5.
tuṟakk-unar, Kalit. 13:26.
teriy-unar, Patiṟṟ. 74:8.
teḷikk-unar, Kalit. 30:12.
toṭakk-unar, PN. 378:14.
nalk-unar, Kalit. 23:10.
nāṇ-unar, Tol. Por. I, p. 455, 1:5.
*pakar-unar > pakarnar, Patiṟṟ. 13:23; AN. 25:10.
pat-unar, AN. 16:15.
paruk-unar, PN. 68:15.
paṭ-unar, PN. 14:19; 33:10; 99:11; 165:7; 221:1; 226:3; 235:17; 369:18; Patiṟṟ. 86:8.
pukaḻ-unar, Mpṭu. 73.
puṭaiy-unar, Mpṭu. 328.
puraiy-unar, Por. 180, Nacc. cit. b; Maruk. 280.
pull-unat, pūṭṭ-unar, 43:16.
peṟ-unar, Kalit. 71:22.
por-unar, Tol. Por. 75:7; 60, Nacc. citation, beginning in vīṅku, l. 7; 91:3; AN. 76:5; PN. 69:13; 365:6.
poṟukk-unar, PN. 63:8.
pōḻ-unar, Cilap. 5:47.
*makiḻ-unar > makiḻnar, Naṟṟ. 70:8.
malaiy-unar, PN. 282:7.
*mutiy-unar > muṭinaṟ, (or from muṭ-in-ar), Kṟt. 195:3.
muyal-unar, AN. 322:13; PN. 182:9.
muṉiy-unar > muṉinar, Kṟt. 39:4; 213:7; Aiṅk. 314:5.
var-unar, Kṟt. 47:3; 274:4; AN. 300:13; 365:8; PN. 29:20; 158:14; 158:18; 177:15; 203:8; Kuṟiñcip. 202.
vall-unar, PN. 24:34; 57:1; Kṟt. 395:3.
vaḻaṅk-unar, AN. 1:14; 18:11; 109:10; 218:11; Perumpāṇ. 400.
vāṭṭ-unar, Kalit. 11:20; Aiṅk. 462:4.
*vāḻ-unar > vāḻnaṟ, PN. 9:3; 28:3; 33:4; 43:1; 46:4; 72:10; Patiṟṟ. 71:17; 51:30.
vilaṅk-unar, Patiṟṟ. 11:7.
viṉav-unar, Cīv. 466d.

vīḻ-unar, Kalit. 66: 5; Kuṟ. 1309 > vīḻnaṟ, AN. 322: 4.
vēṇṭ-unar, Perumpāṇ, 443.
vaik-unar, AN. 316: 16.
vauv-unar, AN. 1: 14.

C. A few instances of "*un-aṉ*".

aṭ-unaṉ, PN. 56: 13.
kāṉ-unaṉ, Naṟṟ. 390: 7.
koḷ-unaṉ, Tol. Por. I, p. 514, Kṟt. 80: 7; 293: 8, Naṟṟ. 110: 10; 170: 5; PN. 2448: 3; 279: 5, Mpṭu. 302; Kuṟ. 55a.
paṭ-unaṉ, PN. 48: 9.
piriy-unaṉ, AN. 392: 19.
por-unaṉ, AN. 76: 9; 396: 10; PN. 42: 18; 58: 9; 78: 6; 82: 5; 140: 1; 152: 31.

D. A few instances of "*un-aḷ*".

aṟik-unaḷ, Tol. Por. 180, Nacc. cit. c. (from Patiṟṟ. he says).
aṟiy-unaḷ, Naṟṟ. 44: 5.
eṉṉ-unaḷ, AN. 5: 18.
kēṭk-unaḷ, AN. 63: 19.
puraiy-unaḷ, Tol. Poṟ. 180, Nacc. cit. b.
peṟuk-unaḷ, AN. 324: 1.
maṉṉ-unaḷ, AN. 62: 10.
vall-unaḷ, AN. 105: 4; 153: 13.
vāṅk-unaḷ, Kṟt. 229: 2; viṭ-unaḷ, Naṟṟ. 68: 7.

E. An Instance of "*un-al*".

ner-unal, AN. 6: 11; 62: 11; 116: 9 (alt. lect.); 166: 11; PN. 279: 5 (alt. lect.); Naṟṟ. 25: 5. It should be noticed that this word obtains the suffix "-tu" in later literature, becoming "nerunal + tu" > "nerunaṟṟu", Kur. 1278a; Tv. 2: 61; 4: 4. Hence the mod. Tam. word nēṟṟu = yesterday. Cf. un + tu > untu. Likewise mutal + tu > mutaṟṟu at Kuṟ. 1b: mutaṟṟē ulaku.

F. A few instances of "*un-ai*".

aṭ-unai, PN. 36: 1.
koḷḷ-unai, Patiṟṟ. 17: 3.
ner-unai, AN. 116: 9; 266: 2; 275: 15; PN. 249: 7; 279: 5; 303: 5; 316: 5.
por-unai, PN. 11: 5; 36: 5; 387: 34.
vall-unai, Aiṅk. 285: 5.
viṭ-unai, PN. 36: 1.

G. Two other instances of *"un"* as the first of many suffixes.

paḷ-un-iṉ-a, AN. 394:1 = bearing fruit.
paḷ-un-iya, PN. 254:7 = having borne fruit. Cf. aṟiy-unam, PN. 381:6.

H. Instance of *"-untu"* as the final suffix.

PN. 24:3 pāy-untu. 6 tūṅk-untu. 9 tarū-untu, alt. lect. taḻū-untu. 16 pāy-untu, alt. lect. (= altera lectio = another reading of the text).
PN. 137:6 olikk-untu. 8 pūkk-untu.
PN. 339:3 paṟikk-untu. 5 ukaḷ-untu. 8 kuṟ-ūuntu.
PN. 343:2 maṟukk-untu. 4 uṟ-untu. 6 cērkk-untu
PN. 352:2 kaṟakk-untu. 4 paṟikk-untu.
PN. 380:6 āk-untu. 8 -tt-untu.
PN. 384:7 uṟaikk-untu. 9 vaik-untu.
PN. 386:15 nilaikk-untu. 17 olikk-untu.
PN. 395:8 ār-untu. 11 peyarkk-untu. 15 irīiy-untu.
PN. 396:1 vaḷaṅk-untu. 2 pūkk-untu. 4 ōpp-untu. 6 iriy-untu. 9 tāṅk-untu.
PN. 400:14 tūṅk-untu.

Tol. is aware of this connection between "um" and 'un + tu" > "untu"; for Tol. Col. 292 states: "un untu ākum iṭaṉum ār uṇṭā" = there are several insttances where "um" becomes "untu". About "um" itself, Tol. speaks at Col. 202c, 227 and 234 to 235, where "um" is the particle that helps to make a finite verb out of a root. Here the pertinent verse is 227:—

'nikaḻum kālattu cceyum eṉṉum kiḷavi." Hereby Tol. seems to take "-um" as specifically denoting the present tense. On the other hand, his Com. and later grammars, like Naṉ., show with a wealth of instances taken from the earliest texts that "-um" denotes, and *denoted then*, the future. Naṉ. = Naṉṉūl, 1205 A.D. What is more, several instances could be given, also from the earliest texts, where "um" denoted the past tense. Thus at Kṟt. 185:3:—

"iṉṉaḷ ākutal nummiṉ ākum" is rendered by the Old Commentary thus:—"ittakaiya vērupāṭṭai uṭaiyaḷ ākutal ummāl ākiyatu" = the change for the worse in the state of your wife's health

has taken place or took place owing to you. In view of these facts, it is best to take "um" as denoting the timeless aorist. In the earliest texts it was used without any distinction of number, gender or person, even as a finite verb. The Kanarese grammarian, Kēśirāja makes the same remark about -kum, from *kŭ* + um, in his work, Śabdamaṇidarpana, Ākhyātaprakaraṇa, 228. In both Tam. and Tel. this "um" is suffixed to the root optionally to form the imperative, in Tel. to the second pers. sing. and in Tam. to the second pers. pl. or honorific. kŭ (above) = k with kuṟṟiyal ukaram. Tolkāppiyam Col. verses 234 and 235 deal with the "um" as the suffix of the relative participles. In Tel. this is "un". Unfortunately Arden's Grammar of Telugu, sections 259, 261, 264, 268 and 789 are badly worded and confusing, as they stand. It seems to follow the native grammars. The progressive present tense has koṭṭutunnānu = I am striking. Here the -ānu is the enclitic form of nēnu = I, just as in Tam. ēṉ is the enclitic form of yāṉ = I. Hence the present participle is *koṭṭutum,* exactly corresponding to the Tamil. koṭṭutum. Both in Tam. and Tel. -a is the *relative* participial suffix, which is most commonly used. When the "um" suffix was used so extensively and for such a variety of purposes, it lost its relative *participial* connotation; it had therefore to be reinforced by "-a". This is the origin of koṭṭutun-n-a, the Tel. progressive present relative participle.

In view of Tel. "un", the copious forms of Tam. "un" given in the above pages and the growing tendency in Tam. to replace other nasals by m, whenever no ambiguity was involved, it seems best to regard "un" as the original and "um" as devolved therefrom, or at least as its collateral.

§ 8. *"unnu" in Malayalam*

It sometimes happens that among sister languages one group keeps the consonant after a nasal in its original form, while another nasalizes it. Thus Middle High German has "Zimber", Old High German has "Zimbar", Anglo-Saxon and English have "timber". In these words the consonant "b" remains "b" after the nasal "m". But Low German has the equivalent word as "timber", Swedish also has "timber", and Modern German "Zimmer". Similarly Engli. "number" corresponds to German "nummer". Many more instances of this phenomenon can be adduced.

The same phenomenon is observable as between Tamil and Malayalam. Thus Tamil "ōṅki" corresponds to Mal. "ōṅṅi", Tam. "mayaṅki" to Mal. "mayaṅṅi". On the same analogy we are not surprised to see Mal. using "unnu", where O. Tam. employed "untu". In fact, in Tam. itself, sometimes in the same work, we find both forms. Thus maṇimēkalai 16:126 has *aṅkaṉam* while Maṇi. 2:58 has "āṅṅanam". Malayalam employs "-unnu" to the present day.

SUPPLEMENTARY NOTE 1

A:—

(a) Ciṟiyāḻ = a small harp:—Puṟa Nāṉūṟu 109:15; 127:1; 144:2; 145:5; 146:3; 147:2; 155:1; 309:2; 316:7;
Porunarāṟṟuppaṭai 109; Ciṟupāṇ. 35;
Neṭunal. 70; Maturaik. 559; Malaipaṭu. 534;
Aiṅkuṟu. 472:1; Cilap. 28:31.

(b) Cīṟ-aṭi = small feet:—Kuṟuntokai 148:1; 278:2;
Aka Nāṉūṟu 12:2; Tol. Por. 146:34;
Kalittokai 13:11; Patiṟṟ. 52:19;
Porunarāṟṟuppaṭai 42;
Cīvakacint. 1033a, 1328b, 2062b, 2088a, 2132b, 2348d, 2385b, 2459a, 2512a.

(c) Cīṟ-Ūr = a small village:—Kuṟunt. 41:3; 79:5; 242:4;
Naṟṟiṇai 3:5; 95:7; 95:8; 135:4; 343:2;
Aka N. 9:10; 52:7; 63:13; 84:10; 104:13; 225:13; 329:4; 331:8; 384:6;
Puṟa N. 143:10; 297:4; 299:1; 308:2 and 4; 324:8; 328:2; 328:16; 329:1; 330:6;
Perumpāṇāṟṟuppaṭai 54.

(d) Cīṟ-itaḻ = a small leaf, Murukāṟṟu. 21.

B:—

Pācu = "green, fresh, tender", in the following compounds:—

(a) Pāc-aṭaku = a green leaf, Puṟa N. 62:14.

(b) Pāc-aṭai = the same Kuṟunt. 9:4; 246:2; Naṟṟ. 310:2; Aka N. 176:4; Kalit. 71:7 (altera lectio).

(c) Pāc-ilai = the same, Kuṟun. 108:3; 216:1; Aka N. 138:5; Puṟa N. 54:10; Perumpāṇ. 4; Cīv. 1480 a.

(d) Pāc-iḻai = a bright jewel, Aka N. 90:14; Puṟa N. 367:6; Patiṟṟ. 68:15; Cīvaka. 586 a, 904 a.

Rule 1: from the concrete to the abstract, on pages 6, 8 10 etc.

Rule 2: very often the primary root is a monosyllable ending in one of the iṭaiyiṉam, esp. l, ḷ or ḻ (p. 8) §4, at its beginning. I am here recapitaling the four rules that I have enunciated in the body of my article, for the benefit of the readers. I shall hereafter list the 21 words which I have dealt with here.

Rule 3: Tamil roots are not only nominal or verbal, but also adjectival and adverbial, (page 12), §5.

Rule 4: Study the other Dravidian languages, especially those which were cultivated early.

1. Vaḷ=to bend, verb.
2. Uḷ=in, adverb.
3. Kēḷ=a relative, kiḻamai, noun
4. Koḷ=to receive, verb.
5. Kīḻ=down, adverb.
6. Pōḻ=to pierce, verb.
7. ol=to write, verb.
8. kal=to learn
9. kāl=the wind, etc., verb.
10. cāl=to abound, verb.
11. nil=to stand, verb.
12. pāl=to share,
13. pal=several, adjectives.
14. cil=a few, small.
15. kol=to kill, verb.
16. nāl=four, adjectives.
17. pol=to shine, verb.
18. val=strong, adjectives.
19. eḷ=sesame, name.
20. oḷ=to shine, verb.
21. viḷ=to separate.

Total:— 2 Adverbs; 3 Nouns; 4 Adjectives; 12 Verbs =21

SUPPLEMENTARY NOTE 2.

Kēḷir = relatives, intimate friends, kith and kin, at Kuṟunt. 40:2; 289:1 (twice), 293:1. Aka N. 130:1 amma, vāḻi, kēḷir mun niṉṟu.

Puṟa N. 42:17; 74:4 al kēḷ al kēḷir; 71:15 kēḷir-oṭu.
Puṟa N. 1921 yātum ūrē; yāvarum kēḷir.
Porunarāṟṟu. 74 kēḷ al kēḷir.
Kalit. 3:21 mē niṉṟu mey kūṟum kēḷir pōl.
Paripā. 4:54; 8:63 kēḷir maṇaliṉ keḻuvum ituvē.
Kuṟaḷ 187a, 615a, 1267b (here honorific plural "my husband").
Nālaṭi 9b, 201d, 382b.

The other words of this nature that are cited in my 1952 thesis in this manner, with the necessary references, are puttēḷir = gods; peṇṭir = wives, women, also honoric pl. for one wife, at Kṟt. 181:7; makaḷir = girls; vēḷir = tribal chiefs; putuvir = newcomers. Here "ir" is the Old Tamil pluralizing particle, akin to "īr" = two.

SUPPLEMENTARY NOTE 3: "Eṉmaṉār".

"Eṉṉum" is in the *strong* grade. Forms like "eṉṟā, eṉṟa, "eṉṟu" justify us in postulating the middle grade "eṉum", while "eṉm" represents the weak grade. This weakness is due to the primary stress falling on "eṉ" — and a secondary account falling on -on -ār, the last syllable of this compound word. Tolkāppiyam, Col. 238, explicitly sanctions the syncope of the relative participle "ceyyum" into "ceym" in these words:—

"avaṟṟuḷ
ceyyum aṉṉum peyar — eñcu kiḷavikku
meyyoṭum keṭumē īṟṟu micai ukaram.
avviṭaṉ aṟital eṉmaṉār pulavar".

"Ceyyum", "cey",, etc. are the models on which all other verbs are conjugated in Tolkāppiyam, Naṉṉūl, etc. Hence what is valid for "cey" applies to other verbs, like "eṉ". Further, "ceyyum, ceyum and ceym" are the three grades, and these are found actually in O. Tamil texts. This confirms our argument for the three grades in the case of "eṉ". "Eṉṉum" is in the strong grade, "eṉum" in the middle, and "eṉm-" in the weak grade.

Actual instances of this syncope are abundant. I give here just a few:—

(1) elumpu > *elmpu > eṉpu, Kṟt. 182:3; 305:2; Puṟa N. 356:6.
(2) eṉumō > eṉmō, Kṟt. 392:6. Compare this with Naṟṟ. 176:4
(3) cel-umō > ceṉmō, Kṟt. 238:5; 275:2; Naṟṟ. 358:7; 365:5; Aka N. 32:17; 93:16; Puṟa N. 381:5; Perumpāṇ. 45.
(4) celumē > ceṉmē, Naṟṟ. 395:10; Aka N. 176:26; 396:19; Puṟa N. 133:7.
(5) Confer "īṉummō", PN. 130:2, with īṉmarō, PN. 74:7.
(6) Confer "kaṇṇumai", Tol. Por. 76:18 with "kaṇmai", *ibid.* Comm. by Nacciṉārkkiṉiyar.
(7) Confer "pōlum", Kṟt. 222'4; 389:5; Naṉṉūl 96 Comm. with "pōṉm", Aka N. 248:9; 332:15; Puṟa N. 19:6.

These seven out of the one hundred odd instances that are adduced in the above-mentioned thesis are sufficient to prove this point. Furthermore, the *middle* grade "eṉum", which I have just postulated, *actually occurs* at Tol. Eḻ. 25a, 61a, 62b, 73, 322b, 352 (6 times in all, at the least).

The favourite statement of Tolkāppiyaṉār, "eṉmaṉār pulavar", which means "the learned say so", occurs at :—

Eḻuttu 6b, 33c, 53b, 130b, 146b, 158e, 178b, 222b, 272b, 283d, 288c, 333c, 353b, 413b, 432b, 474c, 478c, 483e. (19 times in all).

Col. 38d, 80h, 85b, 92c, 124b, 148b, 156b, 164b, 204c, 224c, 231c, 238d, 241d, 275c, 288b, 358b, 396g, 403e, 448e, 448c. (19 times in all).

Por. 6b, 11b, 23b, 53d, 75i, 83b, 97b, 101e, 107:15; 149b, 150:32; 157:2; 172:5; 179:2; 187:2; 195:2; 207:4; 224:2; 246:3; 274:4; 314:2; 391:5; 329:2; 441:2; 512:6, 631:2; 659:5. (27 times in all).

Accordingly these musical words are heard 65 times in Tol. When we compare the paucity of lines in Eḻuttu with their relative abundance in Col., and still more in Poruḷ, the occurrence of this statement is proportionately greater in Eḻuttu than in Col., or in Poruḷ: the same diction, in this as well as in other instances points to one author rather than to several authors for the three sections of Tolkāppiyam but other factors too must be taken into consideration.

SUPPLEMENTARY NOTE 4

Ol = to be one with, befit, resemble, agree with, as at Tol. Eḻ. 114b, 246b, Kṛt. 5:5; 43:2; 79:7; 144:4; 217:1; 256:5; 264:5; 291:4; 322:7; 395:1. Note the frequency of this archaic word in Kṛt. which contains many, if not most, of the earliest Tamil love poems extant, and its employment in Eḻuttu, the earliest part of Tolkāppiyam. In Puṟa N., which contains the earliest war poems, this verb "ol" occurs at 31:6; 73:14; 78:9. In Aiṅkuṟu. at 88:4 and 93:2, note "ollēm" and "ollā" respectively.

From this primary verb are formed several other words, as (a) ollār (= poruntātavar, pakaivar, Nacc.) Poruḷ of Tol. 76:10.

(b) o<u>nn</u>ār (= id. foes) Pura N. 6:21; 31:7; 94:5; Paripāṭal 2:50; 7:49; Kur. 165a, 264a, 608a, 630b, 756, 827a, 828a; Pal. 303a, 312b, 321a. Note the nasalization of "l" into "ṉ", through "ollunar" > *ollnar > oṉṉār Cf. Sevtion 7 B. (c) ollāṅku (= poruntum vakaiyāl or vaḻiyāl, "appropriately") Kalit. 3:11.

In Kur. and Nāl "ol" occurs 11 and 3 times respectively, in the latter at 36c, 71c "ollum vakaiyāṉ", 258c "ollā". At Pal. 197a ollāa. Other derivatives from "ol" are given below: but they are just a sample out of hundreds:—

(d) olvu, as at Krt. 259:5; Nāl. 169b. The fomer is beautiful: "olvai āyiṉum kolvai āyiṉum".

(e) olpu, Krt. 252:8; — *பழயாங்கு ஒல்பவோ காணுங்காலே!*

(f) olluva, Paripā. 12:65:— *ஒல்லுவ சொல்லாது உரைவழுவச் சொல்*

(g) ol + tu > orru, Tol. El. 206; Kalit. 103:51; Cīv. 1746b.

(h)* ol + un-tu > oṉṟu (= to unite), Tol. Por. 286:4; 590:2; Krt. 208:1 & 5; 374:4; Pura N. 5:6; Paripā. 1:63; 12:37; 19:15; Pal. 312b oṉṟumō (= certal uṇṭō?), Kur. 233a, 886a.

* In one place Shakespeare speaks of "wise saws and happy instances". In accordance therewith I have enunciated four rules or maxims, the "saws", which should be helpful to research students and scholars in the fields of morphology and semantics. In the seventh section of this essay and in the four supplementary notes, however, I have given a multitude of citation or "instances" which are taken, as far as possible, from the earliest texts. In doing so, I have endeavoured to avoid both extremes: on the one side jejune statement, unsupported by any evidence, and on the other side "crowding the canvas," so that the reader finds it difficult to see the wood for the trees. If this essay inclined to the latter extreme, the writer can plead that several Germans of Bremen in 1950-52 hailed him as the spiritual kinsman of Roth and Bōhtlingk and as more German than the Germans themselves.

The Graffiti on the Megalithic Pottery of South India and Dravidian Origin

DR. J. T. CORNELIUS

My attention was drawn to the significance of graffiti by a reference to these 'marks' by R. Bruce Foote on one of the pots in the Madras Government Museum as representing the antelers of a deer horn, when going through his 'Catalogue of Prehistoric antiquity' and my study of the article by B. B. Lal entitled 'From the megalithic to the Harappa: Tracing back the Graffiti on the Pottery' published in Ancient India, 1960.

G. Yazdani, noticed Pottery marks on pots from Raigir tumuli which seemed to have been scratched with a sharp pointed instrument. He noticed the marks occurred in groups of three and that they bore striking resemblance to Pali letters and also to the old Cretan, Mycenian, Etruscan and Lybian characters. He observed that they are significantly connected with the peoples of Assyria, Chaldea, Babylonia, Egypt and the Mediterranean countries. Yazdani has brought together evidence of such 'marks' on pots from various sites in South India in a comprehensive way which provide a suitable basis for a comparative study of alphabetiform Scripts found by European scholars in other parts of the world, and which throw a flood of light on the obscure problem of Dravidian origins. I have reproduced photos of these alphabetiform signs from various sites in other parts of the world from the earliest times, quoting the comments by eminent European Scholars thereon, arranging them in Chronological order. Yazdani's main thesis was that 75% of the 'marks' on South Indian pottery discovered by him are identical with the alphabetic signs given by Evans in his comparative table [Vide Fig. V(a)] of Cretan Aegean and Libyan writings.

Yazdani in his Annual Report suggested that the Dravidian problem which had hitherto been a tangled knot could be solved

in the light of those alphabetiform signs of the Pottery, supported by such evidence as the uniformity in the shape and ornamentation of Pottery, in the working of the stone and ritual in the burial of the dead in a doubled up or crouching position.

B.B. Lal side-tracking these basic issues in his study of Graffiti marks refers to his own finding of material from Harappan or post-harappan Chalcolithic sites and raises the question of relationship of Chalcolithic culture to the Megalithic ones in India, without recognising the fact pointed out by Sergi, that the use of writing signs is very ancient in the Eur-african species, so ancient that it already reached definite shape in the Magdalenian epoch, earlier than neo-lithic times (3000 B.C.) while its diffusion also is very ancient in the regions over which the species was diffused in Africa in the Canaries, in the Mediterranean, in Western and Central Europe. It was from such a centre or centres that the Chalcolithic culture of Harappa itself was derived.

It is therefore not surprising to find as mentioned by B. B. Lal that 89% of the Megalithic symbols go back to the Chalcolithic- Harappan times and conversely 85% of the Harappan Chalcolithic symbols continue down to the Megalithic culture as alphabetiform script of varying types seem to be a characteristic of the Euro-african species as mentioned by Sergi.

I. *Sergi*: Anterior to the Neolithic period, the first indications of alphabetiform linear writing appear. The alphabetical characters of Libya and the Canarias have long been known.

Sergi refers to Letourneau who writes 'Among the signs impressed in the Megaliths and on the rocks of Celtic countries in Spain, in the Canaries in Africa, we find some which have an undeniable resemblance with certain letters of the best known ancient alphabets of African Origin..... On the whole these signs seem to indicate that the builders of our Megalithic monuments came from the South and were related to the races of N. Africa.

Sergi himself has found some of these taken from French Dolmens (Vide Fig. II).

The ultimate origin of the art of writing carried from the Pyrenese in France in prehistoric times, altogether anterior from

Palaeolithic to neolithic times, was found by Piette at Mas-D'Azil in the S. East of France in a grotto he was excavating as many pebbles coloured with per-oxide of iron and showing alphabetiform signs, some similar to those already found on the dolmens.

Piette writes further "Recognising in the Cypriota and Aegean alphabet or in the writing in use in Asia Minor before the Trojan War, the characters of Mas-D'Azil, there is ground for believing either that the invasions from the west to the East carried into their regions at a very ancient period the writing used in Pyrenean districts or that the rudimentary writing of Mas-D'Azil of Valencia was in prehistoric times the common patrimony of the Mediterranean littoral and the coasts of the Archipelago". Sergi states such signs existed in neolithic times in Egypt also. Many ancient inscriptions from Asia minor also especially from the Troad present characters resembling the pictures from Mas-D'Azil (Vide Fig. I).

II. Ivory tablets showing linear writing (De Morga).

Comments by Sergi. More surprising of all seems to me to be those Ivory tablet found in the Royal tomb at Naqada, on which are signs probably numerical of the same types as those met with on European dolmens and having nothing in common with the Egyptian ideographic characters. These signs are doubtless Libyan and were employed together with the writing considered Egyptian. (Vide Fig. III).

Marks found on Pottery dug out from Cairns in the Deccan and Southern India by Yazdani

Yazdani in the Annual Report of the Archaeological Department of H. E. H. the Nizam's Dominions for 1916-17 (p-5) states that the most notable feature about the 'Marks' is that 75% of them are identical with the alphabetic signs given by Evans in his comparative table [Vide Fig. V(a)] showing the relation in Cretan, and Aegean, Egypto-Libyan and Libyan writings: he quotes Sergi, "The characters called Phóenecian are only a derived form of the alphabetiform signs that appeared during pre-historic times in Africa in the Mediterranean and in West Europe. The Phoenecians (Estruscans) if indeed it was the Phoenecians who diffused the alphabet, only systematised signs that were already known and already indicated phonetic characters.

Yazdani in a paper published in the journal of Hyderabad Archaeological Society (No. 3, p. 61) has pointed out the resemblance of several of these marks to the Brahmi scripts; he states that seven of them (p. 59, *Ibid.*) are identical with the latters of the alphabets of the Bhattiprolu inscriptions and that they are like the Egyptian Heiroglyphics. Buhlar attaches special importance to the alphabet of the Bhattiprolu inscriptions in determining the age and origin of the Brahmi script (Vide Indian Paleography (appendix to the Indian Antiquary, Vol. XXXIII 1904, p. 817). He observes 'More important results for the History of the Brahmi may be obtained from the Dravidi of the relic caskets of Bhattiprolu". The earliest inscriptions in Ceylon are in the Brahmi Script more specially as that of western and Southern India. Cunningham supposed that Brahmi was derived from indigenous Indian Heiroglyphics. Yazdani states that the Semitic alphabet might have played an important part in giving the Brahmic characters a definite shape. He also mentions that far greater resemblance has been noticed in the Megalithic remains of Etruria and South India and refers to M. J. Walhouse (Indian Antiquary Vol. III, pp. 276-277) who observes "Saturnian Megalith (Etrui) represented many a group in the jungles on the Coimbatore and Mysore frontier. Yazdani states that several of the 'Marks' are identical with letters of the Etruscan alphabet, the script of a Civilization which flourished about 1000 B.C. (Vide Fig. V(b)).

V. Yazdani investigated the vessels and potsherd of the large collection of the Madras Museum and found identical marks with those of Raigir pottery from 14 districts of the Madras Presidency and various sites in the Mysore and Travancore States. These places as indicated in his map are Tirunelvelly, Madurai, Calicut, Coimbatore, Nilgiri Hills, Salem, South Arcot, Chingleput, Vellore, North Arcot, Bellary, Anantapur, Raigir and Dornakal.

The above wide distribution of the Graffiti 'Marks' through out Southern India establishes an absolute identity of the Dravidians with Berbero-Libyic stock to which, as Lahovary states, we owe the Capsian Civilisation which flourished with its centre in South Tunisia in the Sixth Millenium B.C. as we have over whelming indisputable evidence in language and in script, in ethnology and Anthropology.

C. Dawson writes "The men of later Capsian culture practised a flint industry of a peculiar type, in which the old Aurignacian forms were gradually simplified and reduced in sizes until they became minute implements of geometrical form (Microlith). This culture had an enormously wide range since it extended from Spain through N. Africa, as far as Syria and perhaps farther still and at the close of the paleolithic age it was destined to expand into Europe...... A somewhat similar art, however existed in later palaeolithic times in Central India, where rock paintings depicting hunting scenes and the figures of animals have been discovered in the Vindhya Hills" (pp. 17-18 The Age of the Gods— C. Dawson 1928) Thus the Capsian culture provides the back ground for the pre-history of South India.

The critical question arises as to when and how they migrated into India. There are two routes open to them (viz) the land route and the sea route. These Nolithic poeple seem to have arrived in the Punjab by land route through the old Province of Makran in Baluchistan, where to this day survive sculptures and the Brahmi dialect from Chaldea as pointed out by Yazdani (*J.H.A.S.* 1917, p. 63), as the worship of Sun, Moon and the serpent and the custom of the burial of the dead in a clay coffin with a disk cover lid which was so highly peculiar to the Chaldeans would indicate. Another ancient site of settlement in India would be Kalibangan in Rajasthan in the Punjab by the land route by the neolithic immigrants, who were Agriculturists and cattle-breeders by occupation. I must refer to B. B. Lal's article and map, in which he mentions 19 sites as megalithic in South India and 13 sites as pre-megalithic or chaleolithic as graffiti bearing sites. As we have seen alphabetiform writing is of neolithic origin, this division in time as megalithic and chalcolithic sites would appear to be artificial and highly arbitrary on which B. B. Lal has based his main thesis in his criticism of Yazdani's papers. It proves only the unity and identity of these two cultures in a common origin though separated in time. South India seems to have received the first neolithic settlers, much earlier than settlers by land from the west, by sea, and they seem to have entered via Calicut, from the Laccadive group of Islands. These were essentially by occupation Fishers and Hunters. It was suggested on the basis of language and script, the Dravidians were of Ber-

bero-Libyic stock. I shall formulate my hypothesis of their ancient homelands on the N. West coast of Africa in Tunisia, Algeria and Morrocco. There are many indications of useful results which could emerge from a study of place-names. Beside place names, we have to rely on traditions and other ethnographic parallels in our efforts to establish our hypothesis on a firm basis.

There is a line by sea of continuity of the Capsian Culture extending from South Tunisia to South India in neolithic times. Tunisian fisheries played a significant role in this respect blazing a maritime trail carrying the N. African Culture to the Aegean archipelago and to the Caucasus via the Black-sea and to Mesopotamia and Babylonia, and the Tuna fishing in the Minicoy Island which lies between the Maldive and Laccadive Islands in the Arabian Sea, which was a stage in the maritime immigration by Western Coast into South India of Neolithic Dravidians. Allchin identifies the neolithic people of the Deccan with the original Dravidian speakers. They are in my opinion a wave of Dravidian speakers from Southern Arabia, as these were maritime relations with Philistia, Phoenica and Cebanon with Western Mediteranean via Wadi Tumilat connecting the Mediterranean with the Red Sea and the land of punt in South Arabia referred to in Egyptian records of the expedition of II Dynasty, which were more frequent than with near Mesopotamia by land in the Neolithic period.

This fact explains why the linguistic ties are closer between Basque and Dravidian languages than with the Caucasian as pointed out by Lahovary.

I would therefore suggest that the earliest first contingent of neolithic Dravidians were of Tunisian origin, who arrived in

Tunisian Fisheries

I am quoting from Standford's Compendium of Geography and travel 1878, p. 66 by K. Johnston.

"Round the coast of Tunis are a number of lakes which are partially separated from the sea by narrow strips of sand and to these large quantities of fish resort for breeding purposes. The Biserta lake was furnished with different species of fish *Tumny fish* (*Thyynnus thunnia*) (Vide Fig. VI) in their annual migration in May and June from the ocean to the Archipelago and the Black-

sea follow either the southern or northern shores of the Mediterranean in all their wanderings.

In a single season the chief Tunnisian fishery furnishes from 10,000 to 14,000 tumny". It was the pursuit of tumny fish that brought the Tunisians to the shores of Western India and Ceylon. This fish is different from the River fish (labeo fimbriatus,) which is the fish emblem of the Pandyans (vide Fig. VII). Another ancient centre of Tuna fishing is the Minicoy Island which lies between the Maldives and Laccadives groups of Islands. In Mahi language of the Islanders, it is called 'mas'-Minicoy is surrounded by a Coral reef. It is a crescent shaped island six miles long and half a mile broad, situated 250 miles southward of Calicut. N. Mascarenhas in an article 'Fishing community on a Coral reef' in the 'Hindu' states that the Islanders look like Sinhalese and Dravidian people. It must be recalled that in *Calicut* in Cochin were found graffiti signs on the pottery Yazdani discovered there. C. Dawson in the 'Age of the Gods' p. 217 writes as follows: "It was here in the region of Gades (Valley of Guadalquivir, Spain) that Plato placed the Centre of the Kingdom of the sons of Poseidon, Atlas and Gadiros, who ruled the vanished Western world of Atlantis, as well as all The Western Mediterranean as far as Etruria and Libya ...... we know in fact, that such traditions of antiquity of the Tartessian culture did exist in classical terms, for later Greek writers record that the *Turdetani* (as the people of Tartassus were called in Post-Carthaginian times) were the only people of the West to possess a *written Literature* and on historical tradition which claimed to go back for thousands of years—Dawson quotes in a footnote, Strabo writes "They have an alphabet, and possess ancient writings, poems and metrical laws, six thousand years old as they say. The other Iberians also have an alphabet, but of a different form nor do they speak the same language" Geog II, p. 139.

It should be noted from the above quotation, according to a tradition mentioned by Plato, in Atlantis (Spain) there were three clans who were the sons of Poeidson (Sea clan) Atlas (a giant who supported the Universe on his shoulders) Gadiros (Potter clan).

The South Indian equivalents of these three clans are (1) Karaiyar (Carians) (2) Muthuvan (Hill tribes, Megalithic) (3)

Kusa, the father of Gadhi, whose son was Visva-mitra, known as Gadhaya (M. Venkatarama 'the greatest Pharoah of Egypt, Vol. I, p. 273). *Paravas* take their name from Paravarum, in Tamil meaning sea; '*Muthuvan*' this name is derived from the Tamil word 'Muthugu' for shoulder or 'Back' on which they are said to have carried Minakshi, the Goddess of Madurai to Travancore, when they were driven out by the Pandyan King. The clan name Gadiro is derived from 'Kadam' in Tamil meaning 'pot' and also 'Kusa' meaning a Potter. There are three place-names in South India which are significantly linked with the North-Western coastal towns of N. Africa. They are Palus Tritonis in Tunisia, Bana in Algeria and Milali in Morrocco.

U. Kanakasabhai in his book on The Tamils Eighteen hundred years ago, p. 30 states that Tamil poets allude to Kundur Kurram in the Chera Kingdom and Milali Kurram in that of the Chola.... 'Kundam' in Tamil means a pot, from which Kundur is derived and identical with Bana-pot.

A Govinda Warriar has written on Bana's Fort, an ancient monument in Cochin State in Quarterly Journal of the *Mythic Society,* Vol. XIX, 1928-20, p. 154. The name 'Bana' means (Pot) in Tamil and establishes a linkages with 'Bana' of Algeria. This ancient Fort in the Vellani Hills of Cochin state does not seem to have been given the attention it deserves from the Department of Archaeology of India. It was previously stated that Yazdani found Graffiti marks on Calicut pottery. These marks must have been the earliest in South India.

The Counter-part of Palus Tritonis of Tunisia is found in Tiruthani a place of pilgrimage which is a small town near Arkonam in Madras. H. S. Longhurst writes in Pallava Architecture Memoris Part III, p. 21 that there is a stone built Pallava temple named Vira-t-taneswara, sacred to Siva built about 900 A.D. Tiruthani of S. India can thus be equated with Palus Tirtonis of Tunisia. The place name Tunisia is also derived from 'Tunny-fish'. Salt fish made from Tunny flesh was known among the ancient Romans as 'Salta mentum Sardicum' and was a regular industry in the Mediterranean in ancient times. The Tunny fish is called Surai (சுறா) in Tamil. Its economic importance is due to a special product 'Massu Meru' prepared from its flesh. Tunny

fishery is carried out near the Maldives as mentioned previously. It is interesting to note that the name of the Zamindar of Tiruthani is known as Zamindar of Karvetnagar (salt-fish) and it was the seat of Pallavas. The name 'Pallava' is thus linked with 'Palus' meaning a 'marsh' or swamp as in 'Palus Tirtonis'. Triton is a merman in Greek Legend who was human to the waist but had a fish tail and lived on the Libyan coast. He carried a sea-shell (Conch) which he blew to control the storms.

He is identical with Ea (Man-fish) the Sumarian fish God at Eridu. The sea port at the Head of Persian Gulf also called 'Magan'. The prehistory of South India can be written around Tunny fishery.

Milali. Of coastal towns, Johnstone writes (Compendium of Geography, p. 31) the most important ones belong to Spain. Of these the most considerable is milali (Melilla) near the Straits of Gibralter dividing Europe from Africa. On the Atlantic is Tangier (Tanja) with 20,000 inhabitants. The place names of these ancient towns in Morocco are identical with Milali Kurram of the Cholas and Tanjavur in South India. These place names indicate the Berber origin of the Tamils. They are essentially farmers. It is stated that Berbers of Morocco unlike their kinsmen the Tuareg of Algeria have no special writing system though Berber characters are derived probably from Tuareg, which alphabet may have formerly extended farther northwards. Sergi (Mediterranean Reca, p. 53) states that the Berber alphabet is substantially identical with the Libyan (Sergis, *Ibid.*, p. 95) and further adds that the Libyans possessed only linear alphabetic signs which are mostly writing signs and which were called 'Marks' by their discoverers without having any alphabetical significance. Many of these still remain in the alphabets of the Tuareges as Evans has shown ("Further discoveries of Cretan and Aegean script"—*Journal of Hellenic Studies*, Vol. XIII, 1897.

They may be brought into lines with the pre-phoenecian writing of the Mediterranean and the pre-neolithic of other parts of Europe. Sergi concludes by stating "We cannot therefore affirm that the Libyans had no writing in the general signifiance of the word."

These alphabet like forms were used contemporaneously with Egyptian heiro-glyphs at the epoch of Abydos and Naqada.

The Dravidians are of Berbero-Libyic stock as stated by lahovary on the basis of Linguistic grounds and this is confirmed on the findings of Graffiti marks on South Indian pottery.

The Berbers are slim, slender boned people with brown sunburnt complexion, with caucasian features, pointed chin, and somewhat prominent cheek bones and thin beard; Circumcision is not practised. Villages built of houses are called Char. Villages formed of tents are called Dwar.

It is interesting to note that a brood hen is enthroned in a corner all to herself in their houses.

Dixon states that the regions occupied by the Iberians were broadly the Provinces of Andalusia, Murcia and Valencia; he states (The Iberians of Spain, p. 4) that the Spanish people of antiquity consisted of Ligurians, Iberians and Celts (Celtiberians of the Roman historians).

The ancient site of Iberians was Andulusia; Murcia was occupied by the Celtiberians or pottery or axe clan, and Valencia by the Bastetani tribe (i.e.) the 'Tunny' tribe engaged in 'Mas' fishing, ('Mas in Masi language means Tuna or Tunny). They were also known as Massiliots or Phoenecians. They were the scribes of ancient times.

1. The Andalusians are the poultry clan. A famous breed of poultry from Spain is called Andalusian and Andulasia in Southern Spain has a coast line on the Atlantic ocean and the Mediterranean sea and Morocco.

The place name Andalusia is derived from the Tamil word "Andalai Pulle" fowl or poultry, and it is significant that its chief town is named "Seville" which means 'Cock' in Tamil and the flag of the Tamil God 'Kandan' has the 'Cock' emblem. The place name 'Morocco' itself can be traced to 'Murugu' meaning a 'hen' which has her corner in the house of Berbers all to herself as mentioned previously. The God 'Kandan' is also known as 'Murugan'.

(2) *Murcia.* The place name 'Murcia' is derived from the Toda word Mu' for pot. This was the ancient seat of the 'Pot' or 'Axe' clan. This caln was also known as Celt-iberians in Roman times. The South Indian place name counterpart is 'muriris' the oldest sea port in Malabar which was known as Mu-chiri or Mu-yiri and is identical with Murcia, the province of ancient Iberian Spain. This clan was also known as Lusitanians. The 'Luz' a division of Mylapore seems to be linked with this clan. Mu-yiri is now known as Kranganur (F. N. page 18, Tamils, 1800 years ago by Kanakasabhai).

'Bana' is a sea port in Algeria and was the ancient seat of the 'Potter' or 'axe' clan. The head of this clan is referred to as Banasura, whose fort in Cochin was said to have been destroyed by Krishna. Bana is referred to by the poet of Maduraik-kanchi as having gold buried in the Southern hills and to Bana's great city and wealth and identified with Kubera. Pot-Sumerian=Bana, Akkadian=Bandu, Egyptian=Ban, Banu; Tamil, Pânai.

Parasurama is Rama with the Axe. This group represents Pelasgians. The name Pelasgian is derived from Greek 'Pelekus' for battle-axe, and from the Assyrian 'Pilaggu' and the Dravidian word 'pila' to split. (Vide Tamil Culture, Vol. II, No. 1, January 1959, p. 98). They are a forest tribe. They are the Celt Iberians of Spain of Roman times.

(3) Lastly, we come to the 'Tunny' or 'Mas' clan. The ancient seat was Tunis where Tunny fisheries were abundant. It was stated that Tuna or Tunny fishery in Minicoy Island was the stepping stone to South India to those western migrants. 'Mas' was in Mahi language Tunny fish (*Ibid.,* N. Mascaranhas article). The Mahi word 'mas' enters into the formation of many Iberian names such as mastienians, with their capital Mastia (Cartegena) or Massia or mastra in the Southern part of Valencia (Dixon-Ibarians of Spain, pp. 9-39). These mariners were called Massiliot and the description of their trading posts are given in the massiliot sailing book written about 530 B.C. by a Greek Sailor. The author of Periplus gives an account of the commerce and Navigation. In this account (Kanakasabai, *Ibid,* p. 36) Tamilakam is styled Limurike, he states 'Proceeding from Angalus the most conspicuous of all the marts and anchorages on the coast are

Kamara, Padooka and Sopatua....but (returning now to the coast above Kamara, Padooka and Sopatma) lies Masalia, a district which extends far inland". Here we have an identical counter part in South India of Massalia of Iberian Spain (Vide map attached). Maher is a trained scribe derived from Mahi. (Carnb. *Ancient History,* Vol. II, p. 326).

The Royal City of Basarnagos was called Milanga identified by Kanakasabai as Kanchipuram (p. 29) which was the ancient seat of Pallavas. Thus the Pallavas may be equated and identified with Basarnagas. In Iberian Spain they were known as Bastetani of the Valencia region. According to Dixon (*Ibid,* p. 16) the Baste-tani Iberians were noted for a village folk dance in a line of 4 women and three men led by a woman playing a double flute, and a man playing a single flute holding hands in the steps of a dance as represented in vase-painting from Liria in Valencia. Mascarenhas in the article referred to above mentions that the Minicoy Islanders were noted for their community dancing which he could not witness as it was discontinued about 5 years ago. These dances from time immemorial were looked forward to with joy and enthusiasm by all. Here is an ethnological parallel with the Iberians of Valencia in Spain. These Iberians belong to the Ligurians who were Shepherds and cattle-breeders by profession.

I referred to (Fig. 80) the Alphabetiform signs from Mas-d' Azil discovered by Piette 1 on many pebbles he discovered there in a grotto. Thse were the precursors of the Cypriots and Aegean alphabet as shown by Piette on a comparative study. Now it is of the greatest interest and significance to find Mas-d' Azil (Mazaleon-vide map) in the Province of Valencia in Iberian Spain. This is the source of alphabetiform signs found on South Indian Pottery, and there is ample evidence as shown by Yazdani for believing that the migrations from the west to the East carried into these regions at a very ancient period the rudimentary writing of Mas-d' Azil in prehistoric times into South India, via, the Minicoy Islands, and Cochin—following the trail of tunny fish.

The province of Valencia derives its name from the Tamil word Vāl, meaning a sword, the famous curved sword known as 'achira' sword which looks like the small sword carried by the Gurkas in South India. Examples, Dixon states of this Sabre have

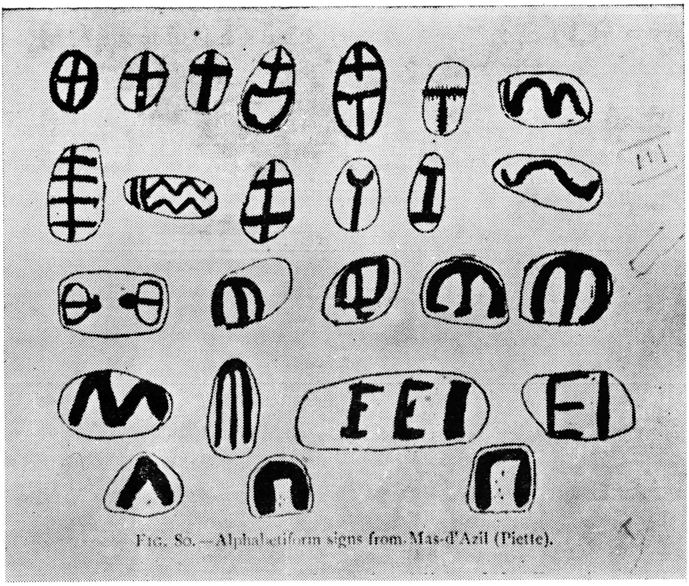


FIG. 80.—Alphabetiform signs from Mas-d'Azil (Piette).

FIG. I

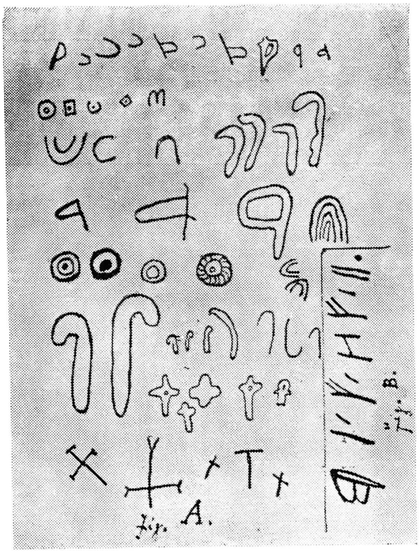


FIG. II

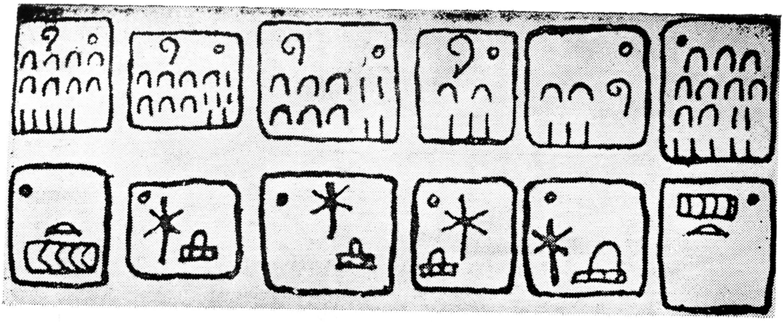


Fig. III

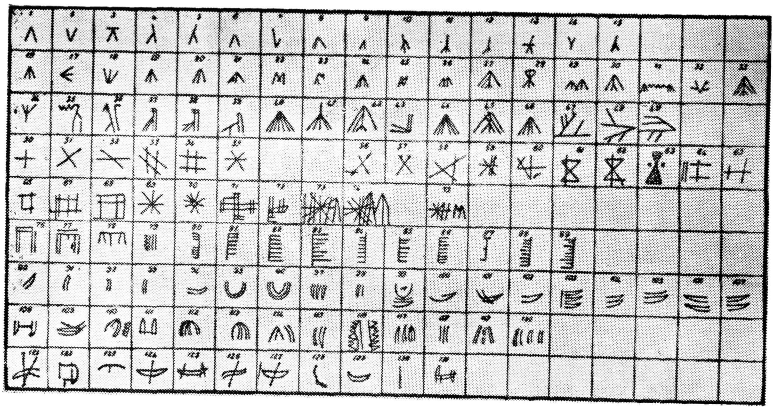
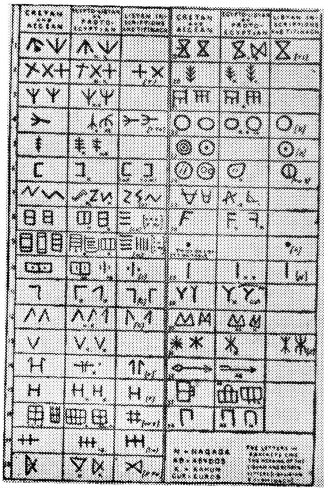


Fig. IV



(a)

Characters of the Etruscan alphabet.
Sergi, *Mediterranean Race*, Fig. 89.

(b)

Fig. V

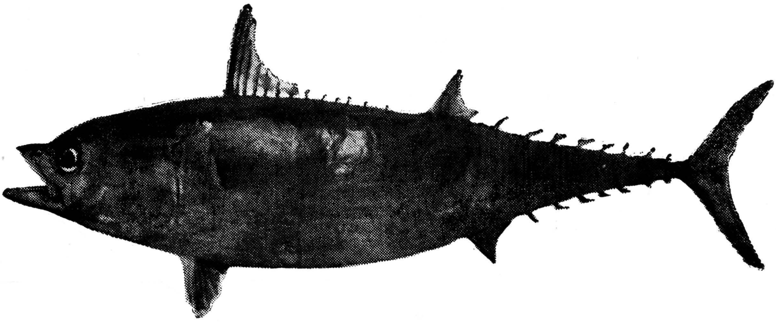


Fig. VI

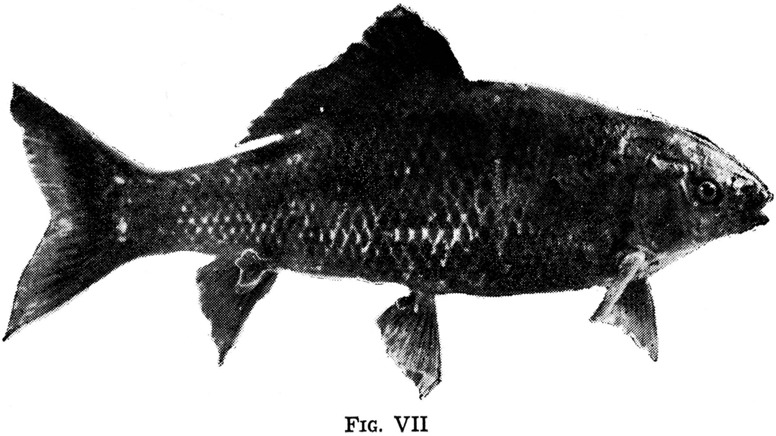


Fig. VII

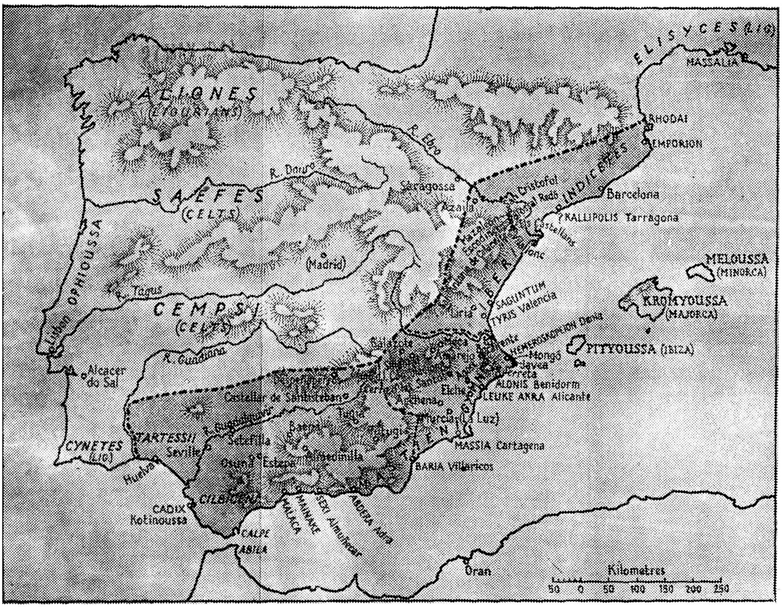

ELISYCES (LIG)
MASSALIA
RHODAI
EMPORION
Barcelona
?KALLIPOLIS Tarragona
MELOUSSA
(MINORCA)
KROMYOUSSA
(MAJORCA)
PITYOUSSA (IBIZA)
SAGUNTUM
TYRIS Valencia
HEMEROSKOPION Denia
ALONIS Benidorm
LEUKE AKRA Alicante
MASSIA Cartagena
BARIA Villaricos
Elche
(La Luz)
R. Ebro
Saragossa
Azaila
R. Douro
(Madrid)
R. Tagus
R. Guadiana
R. Guadalquivir
Castellar de Santisteban
Tugia
Baena
Setefilla
Seville
Osuna
Estepa
Huelva
CADIX
Kotinoussa
CALPE
ABILA
MAINAKE
MALACA
SEXI Almuñécar
ABDERA Adra
Oran
Alcacer do Sal
Lisbon
OPHIOUSSA
CYNETES (LIG)
TARTESSII
SAEFES
(CELTS)
CEMPSI
(CELTS)
(LIGURIANS)
INDICETES
Kilometres
50 0 50 100 150 200 250

Fig. VIII

been found at a great many Iberian sites and in art, it occurs frequently among the bronze figurines as well as on stone reliefs from Osuna and in the battle scenes on the Liria vases in Valencia.

In Ramayana, this clan is represented as Vali, the King of the Monkeys. Rama kills Vali and instals Sugriva on the throne of Vali. The name Vali is misunderstood to mean an animal with a long tail as a monkey 'Val' meaning 'tail' in Tamil

The correct interpretation of 'Vali' will be one who carries the sword—a warrior.

The most important link that connects Iberian Spain with South India is the place name Massalia, previously referred to.

There is a Masalia in Tamilnad (Limuricka) according to Periplus of the Erethraen sea and voyage of Nearchus, and a Massalia, the Capital of the Limurian Province of Elisyces, at the mouth of the Rhone in Southern France, forming the terminus of a maritime trade route which according to Dixon (*Ibid*, p. 45) held the key to western trade (vide map).

The Massallia of South India has become Masulipattinam, and the Massalia of Southern France, Marseilles of Modern times, both the towns have an identical origin in pre-historic period founded by the Iberian tribe known as Bastetoni or Basar-nagas. From the above consideration, we are justified in concluding that the Andalusians are of Berber origin related to the Tamils and the Celt Iberians and Bastetoni are of Libyan stock related to the Telugu, Canarese and Malayalam speaking Dravidians.

The unity of the Berbera-Libyan organisation was shattered under the pressure of the Semites, and the Indo-Aryans and its surviving representatives are the Basque, the Caucasian and the Dravidians.

This conclusion is in agreement with that of Lahovary, that there exists a chain of civilizations akin to each other, whose rites, customs, language are all alike, from Iberian Spain to South India.

It is also in agreement with the theory of Sir Filnders Petrie that both the Phoenician and Greek alphabets, with those of Asia Minor, and the South Semitic, as well as the Cyprian Syllabary, the script of some undeciphered inscriptions, and the early Sinai-

tic writing, developed from the Geometric prehistoric marks employed throughout the Mediterranean area from the earliest times.

G. Yazdani in a paper published in the Journal of Hyderabad Archaeological Society (No. 3, p. 61, 63-1917) has pointed out the resemblance of Pottery marks from Raigir tumuli which bore a striking resemblance to Brahmi letters and also to the old Cretan, Mycenian, Etruscan and Libyan characters.

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15. Nallur Swami S. Gnana Prakasam, *Tamil Culture,* Vol. II, No. 1, January 1953, p. 98.

16. *Cambridge Ancient History*—Vol. II, p. 326.

ILLUSTRATIONS

Fig. I. Alphabetiform signs — Mah-d'Azil (Pietta),—G. Sergi.

Fig. II. Alphabetiform signs from French Dolmans—G. Sergi.

Fig. III. Ivory tablet showing linear writing De Morgan—G. Sergi.

Fig. IV. 'Marks' found on pottery from Cairns in the Deccan and Southern India—G. Yazdani.

Fig. V. (a) Comparison Table (Evans)—G. Sergi.
(b) Characters of the Etruscan alphabet—G. Sergi.

Fig. VI. * Thynnus Thunniane (Tunny Fish), Madras Government Museum.

Fig. VII. * Laber Fimbriatres (River Fish), Madras Government Museum.

Fig. VIII. Iberian Spain 6th — 2nd Century B.C. (P. Dixon) Map.

Note:—*I would like to take this opportunity to record my grateful thanks to Dr. S. T. Satyamurthi, Mr. A. V. M. Sarma and Mr. Kesava Ram, respectively, Superintendent and Curators, Government Museum, Madras for their generous help in preparing this paper.

The Ramayana and its Influence in the Literature, Drama and Art of South and Southeast Asia

S. SINGARAVELU*

Probably no work of world literature, secular in origin, has ever produced so profound an influence on the literary and artistic productions so well as the moral and religious thought of the population of South and Southeast Asia as the *Rāmāyaṇa* ('the career of Rāmā'). This great Indian epic, in seven Books (*Kāṇḍa*), consisting of 24,000 couplets, and composed almost entirely in the ordinary epic metre called *sloka* of two hemistichs of sixteen syllables with an iambic cadence, is believed to have arisen in the ancient Indian kingdom of Kōsala, which lay to northeast of the Ganges and which roughly corresponds to the modern Oudh in India. In or near the country, of which the capital was Ayōdhya, the royal residence of the race of Ikṣvāku, a great poetic sage by the name of Vālmīki is assumed to have worked into a homogeneous whole the various epic tales current among the court bards of Ayōdhya about the life of the Ikṣvāku hero, Rāmā. The Sanskrit epic of the romantic type, classified as a *kāvya* (an 'artificial epic') was then learned by rhapsodists who wandered about reciting it in different parts of the country. The original poem, along

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with its later additions, was a complete work by the end of the 2nd century B.C., and was already an old book by the time the other great Indian epic, the *Mahābhārata,* had more or less attained its final shape in the fourth century A.D.[1]

Ever since the story of Rāmā (the *Rāmāyaṇa*) came to be recited by the wandering rhapsodists, it has served as a model to be imitated by the later classical poets, not only of India, but also of other countries in South and Southeast Asia, who regarded it as the first epic (*Ādi-kāvya*), and its author, Vālmīki, as the first epic poet (*Ādi-kavi*). Thus it came to supply the subject of the classical Sanskrit poet, Kālidāsa's *Raghuvamsa* (the 'family of Raghu'); of the medieval Tamil poet, Kamban's *Rāmāvatāram* (incarnation of Rāmā') or, as it is popularly known, as the *Kambarāmāyaṇam* (Kamban's Rāmāyaṇam); of the religio-philosophic poem, *Rāmacaritmanās* in Hindi of Tulasidas (1533-1623), Eluttaccan's *Attyatuma Rāmāyaṇa* in Malayalam, Raghunatha's *Rāmāyaṇa Dvipada* in Telugu, Hemachandra's *Jain Rāmāyaṇa,* and over *three hundred* other versions in various languages of India. Again, there appeared other adaptations and renderings of the *Rāmāyaṇa* in various languages of the South and Southeast Asian peoples, the most outstanding of them being, the *Old Javanese Rāmāyaṇa Kakawin* of Yōgiswara, the Malay *Hikāyāt Serī Rāmā* of an unknown author, the *Hikāyāt Mahārāja Rawāna,* the *Sri Rāmā,* a *fairy tale* told by a Malay rhapsodist, the Thai *Rāmākian* or *Rāmakīrti* of King Rāmā I (1782-1809) and King Rāmā II (1809-1824) of Thailand, the *Rāma Jātaka* of Laos, the *Annamita Legend of Rāmā,* and the Cambodian *Rāmāyaṇa.* Although the authors of some of these Southeast Asian versions of the *Rāmāyaṇa* are known to have borrowed the story and its various episodes from the original epic and its various Indian adaptations, particularly the South Indian version of the Tamil *Kambarāmayaṇam** and the Bengali version, it must be stressed that the Southeast Asian versions have their own special features, and they continue to enjoy popularity as *national* literary works of the peoples who adapted

1. Macdonnel, A. A., "The Ramayana," *Encyclopaedia of Religion and Ethics, X,* p. 574-578.

* S. Singaravelu, *A Comparative Study of the Story of Rāmā in South India and Southeast Asia,* Kuala Lumpur, 1966, pp. 55.

the story and its various elements in the course of the interesting process known as *acculturation.*

Apart from literature, in which the story of Rāmā has found an abiding place through the ages, there have been also dramatic representations of the story, which are performed on important religious and social occasions in the villages and towns of India, Ceylon, Malaysia, Thailand, Indonesia and other countries of South and Southeast Asia. Thus the Play of Rāmā (*Rāma-Līlā*), in which the most popular scenes from the *Rāmāyaṇa* are exhibited, is annually performed in many towns and villages before a vast number of spectators in India and Ceylon. Selected episodes of the *Rāmāyaṇa* form the themes of the dance-dramas enacted by the famous dancers of Kerala, South India, in which the actors, wearing expressive masks or make-ups, mime the various roles of characters in the *Rāmāyaṇa,* by hand-signs (known as *mudra*) and movements of every muscle of the face, eyes, eyebrows, cheeks, every limb of the body and with the feet, all directly expressive of the roles of particular characters, whether it is Ravana trying to uproot Mount Kailāsa on which Civa sits enthroned with his consort Pārvati, or Rāvaṇa and his wife Mandōdari making love.[2]

In Malaysia, the *Wayāng Kulit* (the leather puppet shadow-play) is played on all important occasions, depicting the various episodes of the story of the Malay *Hikāyāt Serī Rāmā* ('the Annals of Seri Rama'). For this ancient Malay theatrical performance, a *panggōng* (stage) is erected on a suitable site, the necessary opening ceremonies are preformed just before the play commences. The performance lasts generally for seven nights. During this period, only one play is staged, the *Hikāyāt Serī Rāmā,* which is of such an extensive character that it cannot possibly be completed in less time. Thus the seven nights' performance is a continuation from one part to another of the same play, and the audience will have to attend the seven nights to be able to follow the proceedings.[3] The *To'Dalang* (the manipulator of the leather

2. De Zoete, Beryl., *The Other Mind,* A Study of Dance in South India, London, 1953, p. 115.

3. Rentse, Anker, "The Kelantan Shadow-Play", *Journal of the Royal Asiatic Society,* Malayan Branch, XIV (1936), p. 284-301.

puppets) sings or chants the texts, improvises the diverse dialogue, modulates the light, beats out rhythms in the action or gives indication to the musicians with a small block of wood held between his toes. The *To'Dalang* is usually well-versed in the literary texts of the story and in their moral and mystic interpretation. He is in fact much more: he is a great creative artist. Not only must he possess a voice which can lend itself to the utterance of every type of character as well as the musical delivery of songs, but he must also himself inspire each leather puppet in rapid succession, literally inspire the puppets so that the warriors, the titans, the heroes and the gentle ladies must move before the audience in magical reality as shadows. Above all, he must be a fountain of improvised humour and wit, not verbal only, for every attitude, gesture, and cadence of the shadowy figures come from the movement of the *To' Dalang's* hand. To watch such a *To' Dalang* from behind the screen as the members of the amazed audience are often tempted to do, is to have a truly wonderful impression of an inspired being.[4]

The various characters of the *Rāmāyaṇa* are alive to this day through the dramatic representations of the dance-drama and the shadow-play not only in India, Ceylon and Malaysia, but also in Indonesia and Thailand. If the people of these countries can distinguish between the beings on the stage or the shadows on the screen, then talk about the noble and magnanimous Rama, the faithful Sita, the loyal and dutiful Lakshmana and Anuman, and know the basic quality of these and other characters of the *Rāmāyaṇa,* it is probably from the dance-dramas and the *Wayāng Kulit* performances that they have been learning it. Throughout South and Southeast Asia, puppets and the shadows of puppets on a screen have always been a chief factor of spiritual entertainment and education.

In Indonesia, particularly in Java and Bali, besides the *Wayāng Kulit,* there is also the popular theatrical form of dance-drama known as *Wayāng Wōng,* in which the actors are men instead of the leather puppets, whose shadows perform the *Yayāng*

4. De Zoete, Beryl and Spies, Walter, *Dance and Drama in Bali,* with a foreward by Arthur Waley, London, 1933, 2nd imp., 1951, p. 163.

Kulit. Again it is from the story of Rāmā that most of the themes of the *Wayang Wong* are drawn.[5]

In Thailand, the Mask-Play, one of the Thai classical dance-dramatic forms, is known as the *Khōn*[6] of which there are five kinds of presentation: Open-air mask-play (*Khōn klan-plen*), Stage Mask-Play (*Khōn-ronnok*), Mask-Play before the Screen (*Khōn-na-co*), Court Mask Play (*Khōn-ronnai*), and the Modern Stage Mask-Play (*Khōn-Chak*). The story of the Thai *Khōn* is usually the story of Rama. The Thai *Rāmākian,* the Thai version of the *Rāmāyaṇa,* was first composed by King Rāmā I (A.D. 1782-1809), the founder of the present Chakri dynasty in Thailand, while another *Rāmākian* version, regarded as the most suitable for representation on the stage, is that of King Rāmā II (1809-1824). The performers in the *Khōn* wear masks, except those taking human roles as well as those of celestial beings. The reciter of the *Khon* is known as *K' on P'ak,* and he plays the same role as the *To' Dalang* in the *Malaysian Wayāng Kulit.* The *K'on P'ak* knows the rhythm of the dancers' movements and thus is able to regulate his recitation according to the movements of the dancers. The role of the *Khōn* orchestra is also an important factor, for, together with the coordination of the dancer and the reciter, the orchestra contributes to the unity of the *Khōn* presentation. The most important item of the Khon (as indeed of the *Wayāng Wong* of Indonesia) is of course the mask which in the case of various titanic and simian parts conform to the stipulated shapes and even colours. The dress of a titan is designed to create a sense of ferocity and strength, while that of human hero majesty and grace, and of female parts beauty and gentility.

The *Khōn* of Thailand is believed to have been originally inspired by the *Nāng* (the shadow-play of hide figures) or the *Nāng yai* (the play with big figures); when it is combined with dance, it is known as the *Nāng ram* or *Nāng rabam.* The process of preparing the hide-figures for the *Nāng* would appear to have

5. *Ibid.,* pp. 152-164.

6. Dhani Nivat, H. H., Prince and Dhanit Yupho, *The Khon,* Thailand Culture Series, No. 11, 3rd edn., Bangkok, 1962.

See also Dhanit Yupho, *Khon Masks,* (Trans. by L. Lauhabandhu), Thailand Culture New Series, No. 7, 2nd edn., Bangkok, 1962.

been in itself an intricate one: cow-hide is first immersed in water until it becomes tender and then it is dried. Soot is applied to both sides. When it is dried again, the hide is polished with a gourd, after which the artist draws the figures of characters. The parts between the lines are cut out, and the figures are painted in appropriate hues. A pole is halved and a hide-figure is framed between them. When the figures are arranged into sets and are ready for presentation behind a white screen, invocations are made to the gods, particularly the Master of Dance, Siva. Each hide-figure is held up by the two poles on either hand of the manipulator. As the figures are manipulated to the accompaniment of recitation, the manipulator bends and sways, at the same time keeping time with his foot movements. He in fact dances and adopts the appropriate poses of the characters concerned. For instance, when the figure is that of Rāmā, the manipulator assumes the manly pose; if it is of Sīta, then the pose is of somewhat feminine one; and when the figure is of the monkey-king, Sugrīva, the manipulator takes on the simian pose. From this, it is now believed that the manipulator of the *Nāng* performing the dance-movements later came to discard the hide-figure and thereby transform the performance into the *Khōn,* the Mask-Play, which has survived to this day in Thailand under the active encouragement and patronage of the School of Choreography of the Royal Fine Arts Department, Bangkok, Thailand.[7]

While the shadow-play as a great dramatic art is fighting for its survival and its traditional story is kept alive by its probable successor, namely, the dramatic-dance forms of *Yayāng Wong* and the *Khōn,* there is yet another artistic production by which the peoples of South and Southeast Asia tried to keep the characters of the *Rāmāyaṇa* alive. This was the imperishable form of sculpture and bas-reliefs of temples and monuments raised by the princes and the peasants who were both attracted by the story of Rama.

Even as early as the Gupta period (A.D. 320-647), the *Rāmāyaṇa* would seem to have enjoyed great popularity because

7. Dhani Nivat, H. H. Prince, *The Nang,* Thailand Culture Series No. 12., 3rd edn., Bangkok, 1962, p. 12.

it was regarded as emblematic of the virtues of the *Kshatriya* (warrior) prince, Rama, conquering in the service of the god, Vishnu. It was during this period that the Indian arts of theatre, architecture and sculpture are said to have reached the extraordinary perfection. In this period, the temple platforms were decorated with a continuous frieze, representing events from the *Rāmāyaṇa.* This is one of the earliest examples of a motif that is repeated over and over again in the architecture of Java.[8]

Iconographically and structurally, the Kailāsanath temple (8th Century A.D.) at Ellūrā in the Deccan, South India, is partly clothed with the sculpture of the episodes of the *Rāmāyana.* The most impressive of its several reliefs is one illustrating a famous legend (in the *Rāmāyaṇa*) of the King of Lanka, Rāvaṇa, attempting to uproot the sacred mountain of Kailāsa of Civa in order to use it as a kind of dynamo of magic spiritual energy in his battle against Rāmā and his allies.[9] This Chalukyan version of a theme of the *Rāmāyaṇa* may of course be compared with the Khmer representation of the same theatrical tableau on one of the pediments of the sanctuary of Banteai Srei, depicting the titan, Rāvaṇā, shaking Mount Kailāsa. In comparing the two reliefs, (i.e. the one belonging to the 8th century and the other 14th century), Professor Benjamin Rowland notes that the conception at Banteai Srei is about as original and far removed from its precedent, and that there is a playful feeling about the representation as though the figures were moving in the measures of an elaborate ballet (*Wayāng Wong*?)' compared to the dynamic and awe-inspiring character of the Indian relief of the Rāmāyaṇa at Ellūrā.[10]

Also in *Yāvadvīpa,* as Java was referred to in the *Rāmāyana,* one of the principal monuments of the final phase of Art in eastern Java was the temple at Loro Jongrang (near Prambanam), where there are three main shrines dedicated to Brahma, Vishnu, and Siva, the three supreme divinities of Hinduism. The most notable feature of the decoration of the Sive temple at Loro Jongrang, datable A.D. 860-915, is the frieze of reliefs illustrating the

8. Rowland, Benjamin, *The Art and Architecture of India,* London, 1953, p. 136.
9. *Ibid.,* p. 183.
10. *Ibid.,* p. 238.

Rāmāyaṇa on the exterior of the balustrade of the upper terrace, most dramatically conceived and dynamically executed.[11] One series depicts Hanumāṉ, the monkey-warrior, leading the monkey army into Lanka, to which they cross on a stone causeway, built ahead of them by monkey volunteers who carry rocks on their heads and fling them down, hampered by giant fishes and crabs which try to drag the stones away. Then there is also the relief showing Sita sending her ring to Rama through the king of the birds, Jatayu. In another, Rāmā is depicted slaying a giant with a blow that drives his face through his ribs. The most impressive one of the reliefs of the Loro Jongrang group is the one which portrays Hanumāṉ, with his tail ablaze, leaping on to the roof of Rāvaṇā's palace and setting fire to it. This episode has given the artist a fine opportunity to portray a scene of panic vividly, even down to the detail of a terrified dog scrambling out of a lower window of the blazing palace.[12]

Then, there is the typical example of the post-classical Javanese architecture, the temple a Panatram, completed in *circa* 1370. The most characteristically Javanese feature of this temple is the relief sculpture on the platform supporting the shrines: it illustrates Sita and her attendant. According to Prof. Rowland, these carvings are clearly related in form to the most famous expression of later Javanese folk art: the puppets of the shodow play. This last phase of art in Java, now entirely removed from Indian precedent, can be described as a true Indonesian style.[13] (This kind of independent and sometimes unique feature in the artistic productions of the peoples of Southeast Asia may be also seen in the independent variations of episodes in the story of Rāmā in most of the Southeast Asian versions).

Another Southeast Asian country, whose people are known to have cherished the story of Rāmā, is Cambodia. The subjects of

11. *Ibid.*, p. 268.
12. Ponder, H. W., *Javanese Panorama*, London (n.d.).
See also Stutterheim, W. F., *Pictorial History of Civilization in Java*, Weltevreden, 1927, (Trans. by Mrs. A. C. Winter-Keen), p. 50 fig. 65.
Stutterheim, W. F., *Rama-Legenden und Rama Reliefs in Indonesia*, Munchen, 1924.
13. Rowland, Benjamin, *Op.cit.*, p. 269.

the iconography of the famous reliefs of the cloister at Angkor Wāt, extending like a continuous stone tapestry around the entire lower circumference of the building from right to left, include scenes from the *Rāmāyaṇa* (besides the various legends of Vishnu and his incarnation Krishna), depicting the legend of the Churning of the Ocean by a large monkey-warrior, presumably, Vali (or Bali), and the battle between Rāmā and Rāvāṇā. Again, most of the bas-reliefs of Baphuon, a pyramid temple of three terraces and one of the most important building of Angkor Thom of the 1050-1080 period, represent scenes from the *Rāmāyaṇa*.[14] The bas-reliefs of the galleries of the Bayon rank among the best in Khmer art. While those of the outer gallery depict chiefly scenes from the daily life of the Cambodian people in peace and war, the scenes of the bas-reliefs of the second gallery are taken mainly from the Indian epics of the *Rāmāyaṇa* and the *Mahābhārata*.[15] The influence of the *Rāmāyaṇa* in the life of the Cambodian people would seem to date back at least to the 6th or 7th century A.D. According to the inscription of the Prasat Ba An, a copy of the *Rāmāyana* was one of the gifts made by a brahmin savant, Somasarman, to the temple erected to Tribhuvanesvara (Civa) during the reign of Bhavavarman I (*circa* 550-611 A.D.). It is also known that Somasarman, who is believed to have been the husband of Bhavavarman's sister, instituted daily readings of the *Rāmāyaṇa* and other works in a sanctuary, promised benedictions to those who participated in these readings, and pronounced inprecations against those who damaged any of the precious volumes.[16]

Yet another form of artistic representation of the story of Rāmā was the mural painting. In Thailand, the Wat Phra Kalo (the Chapel of the Emerald Buddha), built in 1784 by King Chao Phraya Chakri (Rāmā I), has such murals on the wall of its winding gallery, depicting the scenes from the Thai *Rāmākian*. The murals are divided into about 180 panels and cover the entire length of the wall. These paintings are said to date back to 1784, but they have been repainted from time to time during the reigns

14. Briggs, L. P., *The Ancient Khmer Empire,* Philadelphia, 1951, p. 171.
15. *Ibid.*, p. 224.
16. *Ibid.*, p. 43.

of King Rāmā III, King Rāmā IV, King Rāmā V, and King Rāmā VII.[17] In addition to the murals, the Thai lacquer works also depict scenes and characters of the Thai *Ramakian.*[18]

Now, after having reviewed briefly the influence of the *Rāmāyaṇa* in the literatures, the dance-dramas, the shadow-plays, and bas-reliefs of temples and monuments in South and Southeast Asia, we may well ask why the story of Rāmā has been so popular among the peoples, who, as we know, have been great admirers of the story, irrespective of whether they are Buddhists, Muslims, Hindus or Christians.

One possible reason for the fact that generations of poets and story-tellers have never been tired of narrating the story of Rāmā to the equally untiring audience, could be that the chief characters of the story have been regarded as the personification of imperishable human values such as nobility and magnanimity of Rāmā's character, the conjugal devotion and fidelity of his wife Sīta, the loyalty, courage, and self-abnegation of Rāmā's brother, the unimpeachable devotion of King Dasaratha to duty, righteousness, and honour, all these noble human values have for a great many centuries exercised a far reaching moral effect as paragons for imitation among the peoples of South and Southeast Asia. How far some of these values have been cherished and upheld among generations of people in these countries may be surmised to certain extent from the fact that the names of the noble characters have not only been cited as examples of both illustration and emulation in countless other stories, but they have also become household words, more often used as names of persons in an affectionate and endearing sense. Not only in stories but also in inscriptions, the characters of the *Rāmāyaṇa* have been cited. For instance, the inscription of Phimeanakas that Jayavarman VII (1181-1215) of Cambodia left his wife, the charming Jayarajadevi, tells us of her asceticism her virtuous conduct, her tears, and her likeness to *Sīta* found by her husband.[19] It is particularly noteworthy that

17. The Fine Arts Department, Bangkok, *The Origin and Evolution of Thai Murals,* Bangkok, 1959.

18. Silpa Bhirasri (Feroci, C), *Thai Lacquer Works,* Thai Culture New Series, No. 5, 2nd edn., 1963.

19. Briggs, L. P., *Op.cit.,* p. 205.

in almost all the outstanding versions of the story of Rāmā in South and Southeast Asia the virtues of the noble characters have been described again and again in added lines and cantos (chapters), and of course repeatedly depicted on the screen, the dance-dramas, and the sculpture.

The story of Rāmā has been attractive in its delienation of not only the nobler human virtues, but also of the darker aspects of human nature: the slumbering and then awakening characteristic of human jealousy, as that of Kaikēyi; the dark intrigue of a scheming dependent maid, Manthara; the violent passion of Rāvaṇā; these and other vile characteristics have also had their vivid representation in the story.

Generally, the Rāmāyaṇa has a universal appeal. The heroic deeds of the characters, the unstinted loyalty of the warriors towards their king, the grandeur of the royal courts, the battle-array of the rival armies, the warriors' mortal combat, the superhuman adventures of outstanding warriors and demigods wielding weapons of supernatural power, all these and other elements have been dealt with by the enthusiastic poets and story-tellers, whose artistic narration of the various incidents of the story indeed helped to transport the audience into another world of heroes, titans, monkeys and demons where they could forget all about their daily cares and worries. In this connection it is significant to note that the Malay story-teller was known as *pengeliper lara,* which means literally 'one who smoothes the cares away'.[20]

We may conclude this article on the influence of *Rāmāyaṇa* in South and Southeast Asia by mentioning one important fact. That is this: When the peoples of South and Southeast Asia chose to adapt the story of Rāmā as *their own,* they would seem to have assimilated the various elements to the point of complete identification. So thoroughly did they assimilate the story that, for them, Rāmā was *their* hero and king (For example, King Vijiravudh of Thailand, 1910-1925, because of his interest in the mythological representation of Rāmā in the *Rāmāyaṇa,* is said to have bestowed

20. Mohamed Taib Osman, *Kesusateraan Melayu Lama* (Mimeographed Copy), Department of Malay Studies, University of Malaya, Kuala Lumpur, 1963.

the title of Rāmā on his predecessors posthumously, and this tradition has been continued to this day); the name, Lakshmana, came to be conferred on the classical Malay hero, Hang Tuah, as a title of great valour (the present meaning of the term, *Lakshmana* in Malay is 'Admiral' of the Navy); an island off the north-west coast of the Malay peninsula is to this day called Pulau *Lankawi,* probably after the island of Lanka; one of the kingdoms of Thailand, namely, the Kingdom of Ayuthya (1350-1767) was named after its namesake in India; and the term, *Pāduka,* which meant the sacred sandals, bestowed by Rāmā to his brother Bharata as symbols of sovereignty, is to this day used as a formal title of address when addressing the Paramount Ruler of Malasia as in *Sri Pāduaa Baginda*—Yang di-Pertuan Agong.

A Note on Maridas Pillai

B. BISSOONDOYAL

One comes across the earliest reference to an Indian writing in French at the time La Fontaine started writing his fables. He read two translations of the Panchatantra known to the French as *Les fables de Pilpay.* It is stated by one of the biographers of the French fabulist that one of the translations was by an Indian.

Side by side with the Britishers, but at daggers drawn, the French had started in the Indian subcontinent although they occupied much less territory.

As they stayed in South India, it is a South Indian, Maridas Poulle or Pillai, who in his zeal to make the religion of the Indians known to the outside world, translated Indian works into good French.

It is a little-known fact that long before the Orientalists of Europe dreamt of opening up the treasure of Indian literature some Indians had thoroughly mastered English and French, two of the main languages of the West, and presented inquisitive Europeans with some of the most important works India has produced.

The translaion of Sakuntala into English by Sir William Jones is no doubt an epoch-making event. Every schoolboy knows how Goethe was thrilled on reading it.

Very few, however, are in the know of the fact that much earlier one of the Puranas had been done into French by an Indian. The arrival of the French in Pondicherry and some other parts of the Indian subcontinent had preceded that of the British in Bengal. It is then natural that Indians should have mastered French when hardly a decade had gone by after the Battle of Plassey had been fought.

Maridas Pillai, known as Maridas Poulle to the French, had translated the Bhagavata Purana or, to be more precise, Baga-

vadam, in the latter half of the eighteenth century. This was no mean achievement. Europeans had to fall back on the accounts of travellers if they desired to know about India. Goethe was still a youth when he came across Dapper's *Travels.* This book so to say introduced him to the rich literature of the Indians. He writes in *Poetry and Truth* that he was delighted. As the following remark of his will show, Hanuman, Prince Ram's generalissimo, captivated his imagination so that he could interest others in this character:

"The Altar of Ram was always more successful with my hearers, and in spite of the great variety of characters in the tale, Hanneman remained the general favourite".

Thanks to Pillai's good offices one was, at least in France, in a position to go through a work written by an Indian and done into a European language by another Indian.

Pillai had a reputation that stood high in France. Le Gentil sat at his feet. It could have been known only to a very few inhabitants of the Isle of France or French Mauritius (1720-1810) that an Indian scholar had made his mark. Le Gentil was here in 1760 when the tiny island had some 30,000 inhabitants. The Bagavadam was put to use, like the famous *Ezour Vedam,* by the Romantic School, amongst others.

There can be no doubt that one of the greatest figures of the Romantic School in France was Bernardin de Saint-Pierre who chose Mauritius as the setting of his famous novel *Paul and Virginia.* The 150th death anniversary of this French author was being commemorated by the Prakaasha Pustakalaya of Mauritius when an exhibition of rare books was organised. The Tamil translation of *Paul and Virginia* was one of the exhibits that attracted attention.

The Bhagavata-pourana

Dwarakanath Tagore, Raja Ram Mohan Roy's illustrious contemporary, was in Paris when he had the pleasant surprise of meeting Eugene Burnouf who was busy translating the Bhagavata-Pourana.

Max Muller, who was present on the occasion, has happily written a short account of this interesting meeting

"Dwarka Nath Tagore", writes he, "paid a visit to Europe in the year 1845. I write from memory. Though not a man of deep religious feelings, he was an enlightened and shrewd observer of all that passed before his eyes. He was not a Sanskrit scholar; and I well remember, when we paid a visit together to Eugene Burnouf, Dwarka Nath Tagore putting his dark delicate hand on one side of Burnouf's edition of the "Bhagawat Purana" containing the French translation, and saying that he could understand that but not the Sanskrit original on the opposite page".

Let it be noted, by the way, that the translation of the great Sanskrit work is *Purana* in English and Pourana in French.

The French orientalist Eugene Burnouf laboured more than most of his countrymen who had chosen to study Sanskrit in order to get the reading public to know the Indians through their rich literature.

He was born in 1801 and died prematurely in 1852. He annotated Geringer's *L'Inde anglaise,* wrote his *Introduction to the History of Indian Buddhism,* based on the monuments that had been discovered by that time. He ended this book when death overtook him thus robbing the world of an orientalist of note.

The Tirukkural

When one bears in mind that Eugene Burnouf rendered into French a book that earlier had been translated into the same language by the Indian scholar Maridas Pillai one cannot but infer that the French Indologist could not have refused to interest himself in Tamil, Pillai's mother-tongue. If Burnouf is the translator of the Sanskri *Bhagavat Pourana* Pillai has rendered into French the Tamil version of that work.

In the early days of French Indology Tamil had begun to attract attention. Compared to that ancient Indian language the North Indian languages like Avadhi, Hindi, etc. were of little importance. Grouse had Englished Tulsi Das's *Ramcharit Manas.* So had Hill.

Burnouf was one of those Indologists who knew how to communicate their enthusiasm to their disciples. Ariel, one of Burnouf's pupils, took the trouble of coming out to Pondicherry and

translated the Tirukkural, the well-known Tamil classic, in part. Let it be remembered that Louis Jacolliot too is the translator of this work.[1] Ariel was not long in discovering that the Tirukkural deserved to be read from China to Peru. Ariel appraises Saint Tiruvalluvar, the author of the Tirukkural, in this letter which he addressed to Burnouf:

"The Kurral is the masterpiece of *chef d'oeuvre* of Tamil literature — one of the highest and purest expressions of human thought.

That which above all is wonderful in this book is the fact that the author addreses himself, without regard to castes, peoples or beliefs, to the whole community of mankind; the fact that he formulates sovereign morality and absolute reason; that he proclaims in their very essence, in their eternal abstractedness, virtue and truth; that he presents, as it were, in one group the highest laws of domestic and social life; that he is equally perfect in thought, in language and in poetry, in the austere metaphysical contemplation of the great mysteries of the Divine Nature, as in the easy and graceful analysis of the tenderest emotions of the heart".[2]

French readers had, at first, come across Indian fables and stories. They then read two translations of the *Bhagavata-pourana,* one by a South Indian and the other by Burnouf.

1. He too translated only in part the famous Tamil work. It has been included in his *Les pariahs dans* l'humanité.

2. *Le Journal Asiatique,* Nov.-Dec., 1848.

The Relative Chronology of Harappa

—P. JOSEPH

As long as the stratigraphy of the Indus valley is unsatisfactory, an absolute chronology for Harappa will remain relegated to the realm of desiderata, even though carbon-14 dates for Harappan levels elsewhere are available. A relative chronology, however, can be worked out by taking into account Harappan contacts with the outside world, where chronological sequences have been fixed.[1]

We know more, it has been truly said, of the end of the Harappa civilisation than of its beginning. No excavation in the Indus valley was strictly scientific except, perhaps, Wheeler's at Harappa in 1946, when he dug through the western slope of the citadel mound down to virgin soil. The claim is that the earliest (pre-citadel) occupational level there contained pottery typical of North Baluchistan black-on-red ware[2] (Zhob culture) of the Rana Ghundai III C phase and that Harappa culture followed it. Extensive horizontal excavations are needed to confirm not only this finding but also similar ones at Kot Diji (Sind) and Kalibangan (Ghaggar valley). The Harappa evidence is too meagre to warrant the inference that the pre-citadel pottery,—almost akin to Harappa painted ware,—was non-Harappan. In fact, at Kalibangan the pale ceramic in question was part of a chalcolithic complex, whose relationship with the succeeding Harappa culture cannot yet be worked out, as excavations are still in progress. Wheeler himself, faced with the problem of Harappa remains, — unfortunately left unexcavated, — below the

1. The present study is largely based on Stuart Piggott's excellent narration in his *Prehistoric India.* (Penguin Books, 1950).

2. McCown's and Piggot's convenient distinction between red (northern) and buff (southern) ware culture areas is now open to doubt, since instances have turned up of the same culture producing both wares.

fortification wall in the north-west corner, had to admit of a short pre-defence Harappa occupation. But his 1950 field-work on the Mohenjo-daro stupa mound demonstrated, in addition to a citadel, a longer pre-citadel Harappa habitation.[3] Elsewhere in Sind, at Amri, Gazi Shah, Lohri and Pandi Wahi some stratigraphical evidence showed that Harappa culture overlay black-on-buff Amri ware. Did Harappa civilisation start in the Punjab at the same time as in Sind? Or did it begin in the Punjab and spread to Sind later? Did it develop out of the black-on-red Zhob ware of the Rana Ghundai III phase. Or did it come to the Punjab and Sind from elsewhere, say, Rajasthan? There are too many unanswered questions for us to fix the beginnings of Harappa with any degree of confidence. They should, therefore, be regarded, in the present state of our knowledge, as unknown.

To start from the known, the end of Harappa culture has been connected with the movement, around 2000 B.C., of barbarians living on the northern fringe of the civilised world from South Russia to Russian Turkestan.[4] These barbarians, who had earlier sporadically probed the defences of the kingdom of Akkad and Sumer, had been waiting, readily poised, for an opportunity. They got it after the death of Naramsin, the successor of Sargon of Akkad. Though temporarily repulsed, they came back and finally settled in the land of the two rivers. The grand diaspora of peoples was related, in a large setting, to the invasion of Akkad by the Guti, the migration of the Hebrews under Abraham from Ur to Canaan, the conquest of Egypt by the Hyksos (the Biblical story of the journey of Jacob and his sons fits in here), the foundation of the Hittite empire in Asia Minor, the establishment of the Kassite kingdom in Mesopotamia, the westward push of the Mitanni to North Syria and the Aryan inroads into India.[5] In this fanning

3. The current work of the American expedition at Mohenjo-daro would, perhaps, overcome the water-table problem and yield more definite results.

4. Of late there has been a tendency particularly among Indian scholars to discount the data for the overthrow of Harappa by foreigners. A fresh recapitulation of the evidence, so ably put forward by Wheeler and Piggott, seems necessary.

5. The reference is to the geographical unit as it existed prior to the 1947 partition.

out of folk were involved not only the Semitic but especially the Indo-European speakers, who apparently started it all.

With this quest of nomads for pastures new was connected the dispersal of certain items of material culture from their place of origin, for instance, from Asia Minor the black or grey ware, from Sumer the shaft-hole axe, the mid-ribbed spear and sword, the round stamp-seal and certain types of beads and from the barbarian settlements in South Russia some kinds of pin for fastening dress. The discovery of these itmes away from their place of origin could mean only that they went in the wake of either trade or conquest,—the determination of either alternative depending on the circumstances associated with the finds.

In the Indus valley enough evidence of unrest, insecurity, destruction, conquest and even alien occupation was available. At Harappa, in the later stages, there was feverish strengthening of the citadel defences. In the north-west corner rose a new tower and the western gateway was almost blocked,—an obvious precaution against invitation. Possibly rumours were afloat of movement of folk from outside; probably refugees from the adjoining areas were already pouring in for shelter. There was also evidence that a little later the structures, relating to the western gate and the terraces associated with it, fell into decay and were covered with debris. This apparently happened immediately after conquest.

Then the conquerors dwelt amidst the ruins. Their first task after settling was a reconstruction,—the final one,—of the gateway and terraces, but with what difference! The structures were poorly built, in places with walls only one-brick thick. Elsewhere too on the citadel mound were buildings badly made mainly of used brickbats. There were also brick-paved floors with charred pine and bamboo,—typical of squatters' dwellings. From the last phase of reconstruction in the west-gate and terraces as well as from elsewhere on the citadel mound's top layer came pottery[6] similar to that buried in cemetery (H), situated outside the city limits to the south.

The burials in the two layers of cemetery (H) were pretty large in number. Evidently those responsible for them had lived

6. Also segmented faience beads recalling Minoan specimens of c. 1600 B.C.

in the city for quite a while. The pottery forms were mostly similar to those in the city's main occupational levels, e.g. the offering stand. It was the black-on-red painted ware, the paint deposited rather haphazardly,—the running at the edges gives it away. The decoration, however, was thoroughly different from any known before. The geometric and stylized plant-cum-animal designs were symbolic.

No exact parallels to this pottery have been known outside India. While some individual designs could be matched over a wide area extending from Minoan Crete to South Baluchistan via Northern Mesopotamia and Southern Persia, the full assemblage of these various motifs in one ware was found only in the cemetery (H) type.

In India itself this ware was also recovered from two sites in the Bahawalpur state. One similar pot was associated with a burial at Mohenjo-daro.

Here too were signs of insecurity, raid and ultimate occupation, though temporary, by outsiders, before they moved on. Several large hoards of jewellery, precious metals, beads and copper tools could mean only precaution against loot. Huddled skeletons in streets and on stairways signified slaughter with apparently none around to give a decent burial.

A copper axe-adze with a shaft-tube for hafting, found in a late level at Mohenjo-daro, was quite foreign to the Harappa culture and brought in by strangers. A number of swords, 1½ feet long, with the strengthening mid-rib, came similarly from outside. While parallels to these swords have been difficult to find except, perhaps in a remote way, those with tang and rivets to hold the handle, used by the Hyksos around 1800-1500 B.C., the shaft-hole axe-adze was common in such North Persian sites as Hissar III, Shah Tepe and Turang Tepe. These weapons were, no doubt, wielded by conquerors at Mohenjo-daro.

In the last level of the city's occupation house-plans were not strictly adhered to. Rules regarding house-frontages were flouted. Brick-work was shoddy and houses divided into apartments. Pottery kilns were built within municipal limits,—one even in a street. There was a burial within the city precincts,—a thing that could never have been dreamt of earlier. This burial was made in the

ruined courtyard of a deserted house and was associated with a confused mass of grave-goods, including a pot of the cemetery (H) type referred to earlier.

Further evidence of conquest and occupation by outsiders could be seen at Jhukar, Lohumjo-daro and Chanhu-daro in Sind, the first of which has lent its name to the way of life that followed Harappa culture at these sites. There could be no comparison at all between the planned housing of Harappa and the makeshift squatters' dwellings of Jhukar. Some old house-walls were rebuilt with bricks pulled out of other structures. Rectangular brick-paved floors—same as found at the Harappa citadel mound's topmost level,—were apparently meant to be covered with matting or tents.

There was a curious conglomeration of items of material culture,—distinctive pottery, stamp-seals, amulets, beads, metal tools, pins, bone awls and a clay head-rest. The pottery was painted in black and red on buff. Though some forms were derived from Harappa, like the offering stand, there were others with parallels in South Baluchistan. The painted designs were seemingly derived from Harappa, South Baluchistan and even Amri. The ware, though local, was obviously the result of a mixture of various strains.

The stamp-seals and amulets, however, were entirely foreign to the Indus valley. The seals, made of terra-cotta, faience, stone and metal, bore no inscriptions at all and were usually round, though occasionally square. The designs on them were not Harappan but West-Asian. The treatment of animals was similar to that on Sumerian and Elamite seals. A few seals and amulets were akin to types from Asia Minor.

The beads too, though perhaps produced at the Chanhu-daro bead factory, were made to the order of the new-comers and reflected exotic patterns from Hissar III and Anau III as well as Jemdet Nasr and Early Dynastic periods of Sumer.

The copper shaft-hole axe, like the copper axe-adze with the shaft-tube from Mohenjo-daro, was certainly a foreigner. Several pins for fastening dress[7] were similarly unknown to the Harappans.

7. If, as some think, these are hair-pins, they need not have been foreign at all.

Some of them with rolled-over heads were exactly paralleled in Early Dynastic Sumer and Hissar III B.

The bone awls were entirely new to the Indus basin and the lavishly decorated pottery pillow has not been met with in any other culture so far known.

From some sites in the Lake Manchhar region of Sind came fragments of a ceramic, which some call the Trihni ware. This is closely allied to Jhukar pottery.

While Jhukar culture was an intruder in the Indus valley, the one that followed, namely, Jhangar, known from the type-site and Chanhu-daro, was apparently even more so. Not much of the culture is known, but the pottery, black or grey with incised patterns, must have come from outside. It probably belonged to the well known black or grey ware group, with its origin in Asia Minor and distributed throughout ancient Western Asia by the barbarians during their migrations.

The mid-ribbed Fort Munro sword, akin to specimens from Luristan graves of Iran and the Caucasus region (C. 1400-1200 B.C.), and the Kurram trunnion-celt, similar to a type from Hissar III-Anau III level at Turang Tepe, must be related to foreign raids

From where did these strangers come? Obviously from the west, for they had left traces of their journey in Baluchistan. The Rana Ghundai site of North Baluchistan contained eloquent testimony to the arson, pillage and havoc they wrought and the ruin they left behind. The Rana Ghundai III phase ended in complete destruction. Everywhere there was evidence of burning,—stacks of accumulated ash. Then followed a barbarian settlement totally different from the earlier ones. The Rana Ghundai IV phase was characterized by coarse bowls painted in a tawdry style. Jhukar ware too came from this level. Then this settlement also was sacked and the final phase, Rana Ghundai V, was marked by plain pottery with relief pattern

At Nal the Zhob ware settlement was completely burnt down and the reddened earth gave the site its name, Sohr-damb, the red mound.

At Dabar Kot the last settlement, which was of Harappa culture, was set fire to. There were apparently several visits of the

raiders to this site, as could be judged from the different layers of ash. Here Jhukar pottery as well as Rana Ghundai V ware with relief patterns were found.

While Jhukar ware was picked up at Moghul Kila and Kaudani, from the latter site, Periano Ghundai and Ghul (Quetta valley) came Rana Ghundai V pottery. There were signs of violence at these places except Ghul, where was evidence of a marked decrease in population due perhaps, to mass migration consequent upon rumours of impending raid.

In South Baluchistan, though actual burning could not be proved directly, there were enough signs of alien occupation. At Shahi-tump, where too Harappa contacts had existed, the newcomers lived for a while and buried their dead with elaborate grave-goods in the form of pots, copper and bronze tools, stamp-seals and alabaster cups.

The pottery, black-on-buff, was unlike the type known previously in South Baluchistan. The brush-work was slip-shod, the paint running at the edges. Both in shape and ornament its nearest relatives were to be found in another cemetery at Khurab near Bampur in Eastern Persia. Ultimately the ware was traceable to Tai-i-Bakun and Susa I in Southern Persia, but obviously not so old. The Shahi-tump and Khurab cemeteries must have been roughly contemporary.

The shaft-hole axe from one of the Shahi-tump graves was evidently new to South Baluchistan. Parallels were found in the graves of barbarian chiefs in South Russia at Maikop and Tsarskaya and were ultimately traceble to Sumer and Akkad.

The round, compartmented copper stamp-seals too were foreign. They were similar to the Jhukar ones and the only seal of the kind that came from the Sohr-damb at Nal. They were all related to those found in Hissar III, Anau III and at Susa in approximately Akkadian times.

With invaders from outside was possibly connected the shaft-hole axe with squatting camel from a Bampur burial.

This brings us to the question of the ultimate place of origin of the raiders who passed through Baluchistan on their way to India. Evidently they started from Hissar, Anau and the surround-

ing region. The original culture of Hissar and Anau belonged to the North Persian black-on-red ware group starting way back in the 4th millennium B.C. But already in Hissar II and Anau II, approximately contemporary with Jemdet Nasr and Early Dynastic times in Sumer, new-comers had arrived as suggested by the grey or black polished ware. This pottery ultimately supplanted the earlier painted ceramic tradition in Hissar III and Anau III periods. The plain ware was also found, in the east Caspian area, at Shah Tepe, Tùrang Tepe, Namanga Tepe and Askabad. Obviously an intruder in these places, the ware was brought all the way from its place of origin in Asia Minor by the barbarians who lived on the outskirts of the civilised world.

Apart from the characteristic ware the culture were marked by certain types of stamp-seals, bronze and copper shaft-hole axes and large hoards of precious metals and stones, buried ostentaciously in the graves of chieftains together with their mortal remains. The tools, ornaments and jewellery bore the Sumarian stamp of Early Dynastic times. They were not, however, likely to be that old. The diffusion of various techniques from Sumer to the barbarians must have involved a time-lag and scholars give a date of 2300 B.C. to the cultures known from Hissar III, Anau III and the neighbourhood. These barbarians were apparently Indo-European speakers, who calling themselves Aryans, swept into India via Baluchistan from the north-west.

The Aryan invasion, therefore, could not be very much later than 2100 B.C. To place it around 2000-1900 B.C. would be quite in keeping with the evidence. The raids seem to have been in several waves.[8] The initial one around 2000 B.C. could be related to Rana Ghundai IV, the sacking of Nal, the earliest ash layer at Dabar Kot, the Shahi-tump cemetery, the final layers of Mohenjo-daro and Harappa citadel mound and the earlier graves (stratum II) of Harappa cemetery (H). Subsequent waves could be detected in the two middle layers of ash at Debar Kot, Jhukar and stratum I of Harappa cemetery (H). It is, however, a futile

8. Not all raids need have been Aryan. Some may have been by non-Aryans, caught in the general movement of peoples. The group, that called itself "Aryan", is archaeologically unidentifiable, as the entire evidence is circumstantial.

task to try and unravel the tangle, in the present unsatisfactory state of our knowledge.

A final wave, nevertheless, seems clearly marked. At Nad-i-Ali in Afghan Sistan black or grey were turned up. At Moghul Ghundai in North Baluchistan were found in a cemetery horse-bells among several things and a tripod jar typical of Sialk (B) cemetery, referred to later. At Londe near Nal were picked up sherds painted with animal designs, including a frieze of horses. From the cemeteries of Zangian and Jiwanri in South Baluchistan came pots of shapes akin to those of Sialk (B). Carin-burials and Londo were, possibly connected, have been traced in Baluchistan, specially Southern and Central.

For the date of all this North and South Baluchistan material we have to turn to the Persian sites of Giyan and Sialk. The use of the horse for riding and, perhaps, chariotry seems to have been known to the folk of Giyan I and those who buried their dead in Sialk (B) cemetery. These cultures were characterized by black or grey ware of the same type as found in Hissar III and Aanu III, but definitely later in date, namely C. 1250-1100 B.C. A date of 1100-1000 B.C., therefore, would reasonably mark the arrival of the black-or-grey-ware using and horse-riding raiders in Baluchistan and Sistan.

The destruction of Debar Kot, evidenced by the final ash layer, could be placed about this time. Rana Ghundai V was marked by grey encrusted ware. A small number of grey, verging on black, pots turned up at the Nal cemetery. A few sherds of grey burnished ware came also from sites of the Kulli culture in South Baluchistan. Jhangar culture in Sind was characterized by grey incised ware. Could all these instances be connected with the find Aryan inroad around 1100-1000 B.C.?

The evidence seems to suggest that the introduction of the black or grey ware and the battle-horse-chariot (The Ratha) into India was during the final Aryan raid. It would even seem that while the previous raids, at least the initial one, came from the north-west, (Hissar and Anau), the final onslaught originated in the west (Giyan and Sialk). The data, however, are too meagre to help pass any definite judgment on these points.

On the basis of skull measurements it has been hinted that the invading force was an anthropological amalgam. One skull from Shahi-tump cemetery, associated with the copper shaft-hole axe, was said to approximate to the Caspian type. Another skull from the top layer of Mohenjo-daro appeared to belong to the Mongoloid group. Of the Harappa cemetery (H) skulls a few from the earlier graves were proto-Australoid and two from the later ones Armenoid. While the possibility of a mixed invading force cannot be ruled out, yet the evidence is not really conclusive because of the paucity of anthropological data. The conclusion regarding the Caucussoid and Mongoloid types is drawn from a single skull each and that regarding the other types would have been more certain, had the reports been more comprehensive.

Some scholars have adopted the convenient date of 1500 B.C. as marking the end of Harappa culture and would consider the period from about 2000 to 1500 B.C. as representing the decadent stage of an effete and dying civilisaion. These scholars, with whom are bunched some of the excavators too, would equate this period with the final phase of occupation at Harappa and Mohenjo-daro. This view seems hard to substantiate. Evidence to the contrary is clear, specially at Harappa, where prior to the final slip-shod reconstruction of the structures relating to the west-gate and associated terraces, they had decayed and debris had accumulated, — obviously a result of conquest. Such shocking violation of city byelaws as the final occupation of both sites witnessed could never have been perpetrated by a people nurtured on a centuries-old tradition of civic life. One is forced to lay this awful falling-off from standard at the door of only nomads, the *amurru* — those who had never known a city, — as a cynical scribe of the 3rd dynasty of Ur so tellingly put it. The barbarians dwelt where they had ravaged. They even built without the necessary know-how.

Everything goes to show that, while the civilisation was at its height, the end came pretty suddenly to a people, who were not quite prepared for it, whose very way of life rendered them helpless in a major emergency of the kind they had to face. Theirs was an essentially commercial civilisation, given to the pursuit of peaceful trade, both overland and specially maritime, as amply proved by the Lothal excavations. They did not practise the persuasive art of pushing their products down unwilling throats

with bayonets — rather spears. They did not develop gun-boat diplomacy.

In this connection it is relevant to refer to the opinion held in certain quarters that the dominant impression one gets from a study of Harappa remains is one of stagnation brought about by extreme conservatism and priest-craft. As a proof of stagnation is cited the case of the flat copper axe of Harappa, technologically so poor in comparison with the shaft-hole variety, crude forms of which appeared in the west as early as Susa I and Sialk III (about the middle of the 4th millennium B.C.) and advanced forms from Early Dynastic times (2800 B.C.). Further proof of technological backwardness is seen in the plain spear without the strengthening mid-rib.

While a priest-ridden state of affairs can hardly be proved archaeologically, even if the existence of temples were established — to date none has been uncovered,[9] — the charge of the poverty of technological development is, perhaps, a bit too severe. Whereas the strengthening mid-rib for spears was rendered unnecessary, because extra hardnses was assured by the alloy, copper-arsenic, with which the tools were made, the need of the shaft-hole axe was not felt. This was essentially a weapon of war and its early development in Sumer and Southern Persia was obviously due to the constant danger of raids by outsiders, to which these regions had all along been exposed. After all necessity is the mother of invention. Incidentally, it is very significant that the spread of the shaft-hole axe all over the ancient world was accelerated by the nomads from around the borders of civilisation. No wonder it appealed to them. It was a tool of destruction. It became the barbarian battle-axe and, like the Teutonic hammer of Thor, was put to devastating use.

Well protected by almost impregnable mountain ranges, the Harappans had hardly any taste of war, till it took them unawares. All their tools were essentially peace-time inventions

9. A bold, though not fully convincing, bid has recently been made to identify the citadel buildings, especially at Mohenjo-daro, as temple structures. Cf. Sastri, *New Light on the Indus Civilisation*, vol. I, ch. VII. Unless what lies beneath the Mohenjo-daro stupa and within the bowels of the northernmost ridge of the Harappa citadel is revealed, one can only guess.

that served their purpose adequately. They were not war-oriented. It may not be out of place to remember that in the entire history of mankind the needs of war, — hot or cold, — have given greater fillip to inventions than those of peace.

As demonstrated by a clay model from an early level at Mohenjo-daro, the Harappans had certainly knowledge of the shaft-hole axe but did not put it to practical use, since there was no urgent need. To a people who probably knew such complicated casting processes as the *cire-perdue,* as attested by several specimens, e.g. the bronze figure of a dancing girl, the making of tools like the shaft-hole axe, involving a complex mould, should not have been difficult, had they wanted them.

The Harappans had built a very successful commercial kingdom, highly organized to ensure for them a fair share of the good things of the world. Theirs was not a young, mercurial culture but a mature civilisation, — at least that is the stage we know of. Their criterion of production, be it pottery, jewellery, artifacts or brick-work, was utility. They had long ago left behind and had no more use for the puerile manifestations of barbarian virtuosity, evidence of which could perhaps be found in the early stages of their emergence into civilisation, which unfortunately still elude us. The 'conservatism', the 'stagnation', — so disparagingly stressed by some, — has ensured the continuation of the Harappan tradition to date and given Indian culture certain permanence of values in spite of innumerable vicissitudes over several millennia, — a phenomenon unique in world history.

To get back to the end of Harappa, the original excavators of the Indus valley attributed its collapse there to devastating floods. Later Wheeler and Piggot adduced archaeological proof for the destruction of the Indus cities by raiders, from the west, whom on circumstantial evidence gathered from West Asia, the Indus valley and Vedic literature, they identified as Aryans. Wheeler also advocated as another cause of Harappa's eclipse aridity for which there is hardly any evidence. Indian scholars, however, have generally adhered to the traditional view, which has recently been confirmed by unmistakable signs, of bood havoc in all the river-systems of northern India, as can be verified at Kalibangan, Lothal, Rangpur, etc. Great stress had been laid on the break between Harappa and Cemetery (H) cultures both in the area

of the west gate and associated terraces of the citadel at Harappa and also in the cemetery region, as shown by the trench stratigraphically connecting (R. 37) and (H) cemeteries. The fact, however, that cemetery (H) and Harappa wares were discovered mixed in places of the Harappa citadel other than the west gate and terraces and also in the top-layer of Mohenjo-daro is lightly brushed aside. Obviously the cemetery (H) folk occupied the west-gate area and buried their dead in cemetery (H) later than they dwelt in the rest of the citadel mound. Taking all these facts into account, the most suitable explanation of Harappa's end in the Indus valley is that the unprecedented flood disaster provided an excellent opportunity for invaders to deliver the *coup-de-grace*. The ultimate gainer, if not the initial or dominant raider, was the Aryan.

Marshall placed the end of the Indus civilisation around 2000 B.C. Wheeler pulled it up to 1500 B.C. This upper limit,— the linch-pin of Wheeler's chronology does not seem firmly fixed. The span of about 600 years allowed after the death of Naramsin of Akkad for the barbarians to reach the Indus valley appears unnecessarily long. True, they evacuated Hissar and Ansu completely around 2100 B.C. But they need not have waited that long to start moving southward. Their presence at Hissar and in the surrounding area has been attested in 2300 B.C. and even a little earlier and their southern drive could have begun then, for Naramsin's authority did not extend to Eastern Persia. Moreover, the barbarian migratory mode was not a slow, peaceful, cultural penetration but a fast predatory advance, spear-headed by unencumbered, racing raiders, while stragglers dropped back to leisurely catch up with the *avant-garde* and to incidentally leave behind more tangible clues of barbarian bivouac. Surprise attack was their forte, sudden appearance their speciality. And so an allowance of 300 to 400 years from 2300 B.C. to cover their speedy sortee from Hissar to the Indus ought to be more than generous.

Fairservis, the excavator of the Quetta valley, fixed the end of Harappa in the north-west around 1000 B.C. after allowing a span of 1000 years for the development of the culture, whose beginnings he pegged on to carbon-14 dating of samples from Damb Sadaat (Quetta valley). The upper limit does not apparently take into account the possibility of more foreign raids than one.

If it does at all, it gives only 4 centuries or so, — a period certainly insufficient, — for not merely the many raids but also the Aryo-Dravidian synthesis, which was a *fait accompli* by Buddha's time (6th cen. B.C.). In any case the figure of 1000 B.C. is quite arbitrary. The folk-movements that started in the west towards the end of the 3rd millennium B.C. need not have waited a thousand years to make their effect felt in India.

Do the recently available X, c.-14 dates throw any light on Harappa's upper limit of 2000-2900 B.C. arrived at through relative chronology? The data, though inadequate, provide a pointer. C.-14 test of a sample from the Harappan late level of Mohenjo-daro gave a date of 1760 B.C. showing incidentally that Wheeler's dating of 1500 B.C. for Harappa's end would need revision. But what Marshall considered as late Harappan level was probably of the Cemetery (H) culture which was undistinguished from Harappan prior to Wheeler's 1947 dig at Harappa. The end of Harappa hence, must have been earlier than the date of the sample. This deduction seems to agree with the c.14 dates for Kalibangan and Lothal. At the former the late Harappan level has been dated between 2095 and 2045 B.C. At Lothal phase IV of period A (Harappan) has been dated 1900 B.C. An identical date has been given for the late level of Kulli culture with Harappan affinities at Niai Buthi in the Las Bela district at the foot of the Baluchi hills.

The narration of events pertaining to the end of Harappa in the northwest is dependent on the assumption that the items of material culture discussed were found actually on the top layers of the sites involved, — a big assumption in the unsatisfactory state of the excavations carried out so far. Should, therefore, stratigraphical data based on scientifical digging turn up in future to upset the calculations, the entire evidence will have to be considered *de novo.*

The beginning of Harappa's end was around 2000-1900 B.C., when Harappa as a culture in the Indus valley and its immediate neighbourhood and also as an empire was finished. It persisted, however, elsewhere, particularly in Kathiawar-Gujarat, as shown by the evidence from Lothal and eighty-odd other sites. Guarded by the Vindhya-Satpuras and the heavily wooded jungle around, the Gujarat Harappa culture escaped the doom of des-

truction that overtook its counterpart in the Indus valley. Moreover, the invaders' first impulse on deciding to move out of the Indus basin was a push to the east, to the adjoining, equally fertile Gangetic plain. They turned their attention to peninsular India much later. Nothing at all, therefore, could have prevented the Gujarat branch of the Harappa civilisation from continuing to flourish in, may be, a modified form for quite a while after the northwestern disturbances. The change could have been due to a gradual fall in commercial prosperity because of unsettled conditions, in not only the Indus valley but also the Persian gulf region, following the break-up of the Sargonid empire. This is apparently what the archaeological record reveals. As proved by Lothal, Rangpur, Somnath, Prabhas Patan, Rodji, Pithadia, Magham, Telod, Bhagatrav, Hasanpur and other sequences, the Harappa civilisation perceptibly deteriorated and gradually transformed itself into the lustrous red ware culture in some places and in others into the so-called chalcolithic culture originally identified in Central India, until in the whole area the northern black polished ware, — pretty securely dated between the 6th and 3rd cen. B.C. on the evidence from Taxila, Hastinapura, Kausambi, etc., — took over.

Harappa's beginnings are shrouded in mystery. Attempts, however, to date them are not wanting. Whereas Marshall fixed them around the start of the 3rd millennium B.C. or a little earlier on the basis of foreign contacts, Wheeler stood for 2500 B.C. on the ground that definite Indian contacts with the west prior to this date are not evident. In recent years Wheeler's date has been generally accepted. Gordon in an attempt to bolster up the lower limit of Wheeler's chronology has stressed correlation between the bichrome pottery of Kechi Beg (Quetta valley), Loralai III[10] (North Baluchistan) Periano I[11] (North Baluchistan), early Nal-Nundara (South Baluchistan) and Amri as well as their links with Black-on-red Togau (Central Baluchistan) ware and largely black-on-buff Kulli (South Baluchistan) ware. Their places on the chronological chart as also those of succeeding cultures and phases have been determined by not only stylistic considerations and inter-relationships but also a stratigraphical

10. Piggott's Rana Ghundai IIIc.
11. *Id.*

information available mostly from Quetta valley and North Baluchistan sites excavated by Fairservis. As printed pottery tradition in the east, it is claimed, probably arose from the dispersal of pot-painters from Iran after the break-up of the painted pottery cultures around 3000-2800 B.C. and as Amri was the easternmost, it could not be earlier than 2600 B.C. Harappa, that followed, could not, therefore, pre-date 2500 B.C. The unproven hypothesis, however, regarding the movement of pot-painting technique from west to east vitiates an otherwise well reasoned argument. However, except at Tai-i-Bakun and perhaps Giyan the painted pottery cultures of Iran flourished uninterrupted at the beginning of the 3rd millennium B.C. Then again, what strikes one in the eye, even as it did Ross at Rana Ghundai, is the prominent place in the Baluchistan pot-painter's earliest repertoire held by the humped bull and the black buck, both indigenous to the Indus plains. Finally contact between India and the west was as much, if not more, by sea as by land, and so searching the land-route can provide only half the answer. Viewed, therefore, against the unimpressive backdrop of largely incomplete stratigraphy and consequently unknown cultural origins, any attempt at pin-pointing Harappa's beginnings appears a trifle premature, as it can do no better than browse on the thistles of woefully inadequate data.

How far does c.-14 dating help to fix Harappan beginnings? It must at once be acknowledged that no samples from the early Harappan level of any site in the Indus valley have been submitted to c.-14 test. Kot Diji, situated opposite Mohenjo-daro across the Indus provides no pointer to Harappan beginnings. The pre-Harappan phase there, known as the Kot Diji culture, ended around 2000 B.C. (c.-14 date of 2090 for the late Kot Diji culture level), when Harappa started. It was apparently a local phenomenon for Harappa ended at Kalibanjan around that date. Even if the late level of Mohenjo-daro were Harappan and not of the Cemetery (H) culture, that would give for the entire known Harappan occupation at Mohenjo-daro only about three centuries,—a span obviously too short to cover nine structural phases.

Outside the Indus basin the findings from certain Quetta valley sites have been used by Fairservis to determine Harappa's beginnings. Samples from Damb Sadaat (period II), subjected

to carbon-14 test, gave dates between 2560 and 2200 B.C. The succeeding Damb Sadaat III, which had Harappa contact, must, therefore, be assigned to about 2000 B.C. The search in North Baluchistan and the Indus valley for correlations yielded at Sur Jamgal typical black-on-grey Damb Sadaat II ware as well as Quetta wet ware, common in Damb Sadast II-III, in association with Rana Ghundai III pottery, at Dabar Kot Harappa occupation after Rana Ghundai III period, at Harappa itself Harappa settlement following Rana Ghundai III, at Mohenjo-daro Quetta wet ware in the Harappa lower levels and elsewhere in Sind Harappa settlements superimposed on Amri, quite similar to Damb Sadaat II. From these correlations have been drawn the chronological conclusions that Harappa culture in the Punjab could not be earlier than 2000 B.C. and in Sind than 2100 B.C.

Attractive as it is, this view has its loopholes. First of all, it takes no account of Harappa contacts with Hissar III and Anau III—as shown below,—during 2300—2100 B.C. Secondly to erect the whole edifice of Harappa chronology on tests, though carbon-14, of samples from a site, situated pretty far from the main theatre, could be rather risky. Finally, correlation does not necessarily denote contemporaneity. That Amri and Harappa cultures started in Sind only about the same time as or a little before their influence extended to the Quetta valley seems difficult to maintain, when next to nothing is known of their arrival in Sind, let alone their origin, and not all about their subsequent development.

Samples from the early Harappan layers of Kalibangan are under processing. These however, may provide, as Kot Diji does, only a local answer. Harappa was not a mere city-state but a far-flung empire—the biggest prehistoric one so far discovered—and hence the answer may not be as simple as some think. Samples from several sites, including the original ones of the Indus valley, must be tested before an indication could be had regarding not only the date but also the place of origin of Harappa culture.

If there are Aryan remains in the northwest, there should be similar ones elsewhere in the country. The earliest to be so identified were certain copper hoards, the first having turned up as early as 1822. They seem to be still coming, *vide* the very

recent one from Khurdi, Rajasthan. They comprise flat axes, bar-celts, shouldered-celts, curved axe-blade, chisel, bowls,—channel-spouted and plain,—'anthropomorphic' figures, hatchet, harpoons and swords (spear-heads?) with or without antennae and were recovered from various places in the Gangetic plain, over a wide area covering U.P., Bihar, West Bengal, Orissa, Madhya Pradesh and Rajasthan. As the hoards were, by and large, chance-finds and not the result of deliberate digging, their stratigraphical and chronological horizons are unknown. They have, nevertheless, been placed, as obvious signs of troubled times, in the latter half of the 2nd millennium B.C., which must have witnessed widespread upheavals following Harappa's fall in the north-west. Of the tools the swords and harpoons so hark back to foreign specimens in regard to the strengthening mid-rib, that they must be attributed to Aryan craftsmanship. Even if they were turned out by non-Aryans from local ore, they cannot be dated earlier than the Aryan arrival, for the mid-rib technique was unknown in India till then. Whether a late 2nd millennium B.C. date could also be assigned to the other tools is problematical, for their connection with dated material is obscure. The flat axes, the most numerous of the finds, are similar to Harappan models. Their very simplicity, however, makes derivation difficult. They could be independently produced at diverse centres. The bar-celts have been temptingly, though not very convincingly, traced to a smaller variety from Chanhu-daro (Harappa type) and the Nal cemetery. The channel-spouted bowl is akin to pottery from Navdatoli on the Narmada and Chandoli (Poona Dt.). The shouldered celts are like those of stone widespread in eastern India. The rings etc. do not seem to have been reproduced elsewhere in India or abroad.

In recent years, trenching at Bisauli and Rajpur Parsu in U.P., on spots supposedly the same as produced the hoards, yielded a coarse, ill-fired, thick, ochre-colour ware without, however, any implements. On the strength of this slender evidence, rather strange coincidence, the hoards have been linked with the pottery. Moreover, since it has been found stratified at Hastina-pura, U.P., below the painted grey ware, for which an Aryan authorship is being vigorously canvassed, the former is supposed to be pre-Aryan and, therefore, non-Aryan. From Bisauli, however, had come a harpoon, from Rajpur Parsu six harpoons and from Manpur, another U.P. site, where too the ware had been

found, a sword, — all with the characteristic mid-rib, that must mark them as Aryan or post-Aryan, if non-Aryan.

Did the hoards, perhaps, fall originally into two distinct tool-groups of an earlier non-mid-ribbed variety and a later mid-ribbed type? And has the ochre-colour ware any connection, if at all, with the former group only? If so, one can visualise two successive waves of unrest in the Gangetic basin. Fugitives fleeing from their homes in the face of Aryan onrush could have deposited hoards of non-mid-ribbed tools. To the victors, however, it apparently was not all beer and skittles, at least not for long. They were displaced either by the vanquished, who had found fresh strength, or by a new wave of foreign hordes. The hoards of mid-ribbed weapons,—they could even have been mixed with the other kind,—can only be thus explained and should, in that case, be put down to the fag-end of the 2nd or the beginning of the 1st millennium B.C. Extensive excavations are, indeed, needed before the tangled skein of copper hoards and ochre-washed ware can be so unwound as to provide a pointer to their producers and date.

The excavators of Maheswar and Navdatoli on either bank of the Narmada as well as Nevasa on the Pravara, a tributary of the Godavari, have hinted that the chalcolithic settlements there and also largely similar ones in Saurashtra, in the Chambal, Tapti, Godavari-Pravara and Krishna-Tungabadhra basins, (variously dated by c. 14 method between 2000-1000 B.C., all sharing mainly the use of microliths and black-on-red painted pottery with, doubtless, local variations, were, perhaps, Aryan. The suggestion has been based on resemblances in certain items of material culture between these sites and some West-Asian ones, specially Hissar, Sialk and Giyan. Particular emphasis has been laid on the blade industry, linseed cultivation, cream-or-white-slipped ware, channel-spouted and tubular-spouted vessels, conoid and concave-sided cups as well as painting repertoire,—geometric, plant and animal,—recalling post-Harappan Jhukar. Flourishing stone-blade industries, however, had long been established in the country before the Aryan arrival, e.g. the Harappan long, parallel-sided chert blades, descended from the earlier Sukkur-Rohri models. The chalcolithic short-blade industry using fine-grained stones like agate, chalcedony, etc. and based on the created guiding ridge flaking technique for mass production was certainly Harappan-inspired. The blunt-backed

blades, however, with steep retouch are reminders of a microlithic hunting tradition seen in geometric tools. Not enough is known of plant-domestication in South and South-east Asia to warrant the derivation of Navdatoli linseed from Central Asia. Of the ceramics the cream-or-white-slipped ware of Gilund's (Rajasthan) top-layer, Ahar I A (Rajasthan), Navdatoli I and II and Chandoli (Poona Dt.) is too far removed in time (over 2000 years) from Sialk I for the resemblance to be really relevant. The painting repertoire of the black-on-red ware, just like the Jhukar, was made up of the earlier Amri, Harappa and South Baluchistan elements. The Aryan introduction into the country of the cut-spout vessels of Gilund, Navdatoli III, Bahal I, Daimabad II and III and Nasik-Jorwe-Nevasa-Chandoli and the channel-spouted bowls of Navdatoli III, Daimabad II and III and Chandoli is hard to prove in view of their non-occurrence in north-western India. Aryan inspiration however, can definitely be seen in the mid-ribbed daggers of Navdatoli III and Chandoli.[12]

Add to all this evidence the black-and-red technique,—(resulting from differential firing) in wares of different forms from the early levels of the chalcolithic sites,—the same technique as was prevalent from the earliest Harappan stratum at Lothal, Rangpur, etc.,—the mud-brick houses of Gilund and Ahar, the huge mud-brick and burnt-brick (of almost Harappan dimensions) structure as also the terracotta figurines of Gilund and finally the data for plant/animal domestication. The resultant picture is a cultural complex with a pretty strong, though fast devolving—the general loss of writing except for graffiti on pots is eloquent enough,—and migratory (in search of new avocations due to loss of trade) Harappan element, fertilising in Central India and Northern Deccan, from about 2000-1900 B.C., into neolithic-chalcolithic and microlithic phase,—on which complex Aryan influence was just beginning to be felt in Central India about mid-second millennium B.C. and towards its end in Northern Deccan. Whether the microlithic culture impinged on an earlier Harappan or *vice versa* is difficult to say, for at all sites the elements seem mixed from the start. In some places of

12. The hoard of four-ribbed swords from Kullur (Deccan) is perhaps evidence of an instance of sucessful resistance to this Aryan drive into the peninsula.

the Southern Deccan (e.g. Sangana Kallu), however, the neolithic-chalcolithic from the north apparently arrived after a local neolithic, characterized by the pointed-butt polished stone axe, had already developed.

Yet another ware, namely, the grey painted in black—associated with the Indo-Europeans in Lake Urmia (Iran), Thessaly and Sistan,—has been connected with the Aryan arrival in India, where it is reported to have been in use, during the early half of the 1st millennium B.C., at some forty sites, in the upper Gangetic and Sutlej basins and twenty-odd ones in the Ghaggar valley. But the evidence is not conclusive. In no site does the ware seem to have been in contact with the latest Harappa layer,—a thing to be expected, had Harappa's doom been due to Aryan onrush. At Rupar in the Sutlej basin, for instance, the ceramic succeeded Harappa after a clear break. At the neighbouring twin sites, Bara and Salaura, only 300 yds. apart from each other, while the former showed no other than a Harappa settlement, the latter's earliest occupational level disclosed painted grey ware with no Harappa signs at all. Alamgirpur too, in the upper Ganga-Yamuna doab, does not confirm such contact. If anything, it proves the opposite because of an obvious hiatus between the Harappa and painted grey ware habitations. Even if, therefore, the Indian painted ware were similar to its counterpart from Western Asia and Europe,—which is not quite clear yet,—there is no evidence to connect the Indian ware with the Aryans. Moreover, none of the typical tell-tale accompaniment like the shaft-hole axe etc. has turned up in association with the pottery. If Aryan at all, it was probably a local product made by the foreigners sometime after they settled in the Gangetic and Ghaggar basins under Harappan inspiration, as shown by some forms, decorations and graffiti marks.

In the lustrous red ware of Saurashtra and Gujarat some have seen the cemetery (H) pottery. It would thus be easy to connect the former with aliens from the Indus basin and account for the end of the Harappa culture in Western India in almost the same manner as in the north-west. This, however, would appear unwarranted, since the resemblance between the wares goes hardly beyond colour; there is nothing symbolic about the lustrous red ware motifs. Moreover, the Aryans would have had to go down south by sea,—a means of transport unknown to them then,—and

not gone by land, as no prehistoric site of any kind, let alone a lustrous red or cemetery (H) ware settlement, has been found along the land-route into Kathiawar from Sind.

Some of the wares discussed in the preceeding paragraphs may be ultimately traced to the Aryans and, perhaps, others too caught in the general melee of mass migrations, actually to various waves of raiding nomads, who apparently devastated the land for over a thousand years and ushered in the Dark Age. Their pottery, though made locally, ought to atavistically recall, however remotely, traits they encountered in their many wanderings. The evidence unfortunately is meagre at present especially in North-western India and West-Asia. There is, true, plenty of material,—an untidy heap, as Wheeler recently deplored,—to shove into the gap between Harappa's end and the start of the northern black polished ware culture, but the sequences in the filling and their inter-relationships, the origin of the relevant cultures and their authorship, are difficult to determine...And so, all the theorising, calculated, no doubt, to cast a helpful gleam into the murky depths of the Dark Age, has not, beyond placing the diverse wares somewhere between 2000 and 600 B.C., succeeded very much in dispelling its despondent gloom.

Now for Harappa's foreign relations. Working back from its end, its contact with Hissar III and Anau III (2300-2100 B.C.) should be capable of easy proof. For, after all, the raiders came from there and they should have known prior to their start, of the rich land beyond the mountains to the south-east. That knowledge was, no doubt, gained from the regular caravans that trekked from the Indus basin, through the Bolan and Herirud defiles, across Eastern Persia to the Caspian region. Visitors, perhaps even spies, could have accompanied these caravans to the back information regarding the defences and weaknesses of the land and the rich booty awaiting a determined band of bold adventurers.

Among exchanges of items of material culture could be cited the Harappa metal tools in Hissar III and Anau III. In the latter site the tools were of copper-arsenic as at Harappa. A clay cart-model of the Chanhu-daro type was found at Anau. A faience bead at Anau and a segmented one at Shah Tepe could have gone from the Indus valley. Certain bronze pins and rods,—decorated with spiral tops and animal designs,—in the early levels of Harappa,

Mohenjo-daro and Chanhu-daro could have come from Hissar and Anau,[13] for they were typical of the barbarian way of dressing. Tin, lapis, lazuli, turquoise and, perhaps, jadeite could be traced to the Caspian sea area.

Harappa's contacts with the Mesopotamian valley were evidently by sea. Some scholars, however, maintain that trade was carried on by the South Baluchis from small harbours between Gwatar bay and Gwadar on the Makran coast on behalf of the Harappans or that, if the latter did it themselves, they sailed from one of their South Baluchistan outposts in the heyday of their empire, when their influence extended over certain parts of the hilly tracts to the west. The geographical reason for this arrangement was supposed to be the notoriety of the Indus to constantly shift its mouth and the existence of mangrove swamps there. With the discovery, however, at Lothal of a scientifically built dockyard, with wharves, loading platform, water-locks and spillways, the whole problem of Harappa's foreign contacts has to be reassessed. In any case, the Baluchi thesis cannot be maintained anymore. The Harappans, it is clear, had all along been mainly seafarers, and highly competent ones at that,—a theory which Fr. Heras propounded as early as the late thirties, several years before Lothal was even thought of as a worthwhile digging venture, and which subsequent excavations have admirably confirmed. The Harappan overland treks into the barbarian regions of Hissar and Anau came apparently only towards the end of their *floruit* and with what consequences we already know.

The Harappan maritime trade was, no doubt, centred round Lothal and possibly other ports like Bhagatrav, sheltering snugly behind the jutting Kathiawar peninsula and ideally situated on the river-estuaries in the Cambay gulf to give adequate protection to ocean-going craft from the buffetings of a turbulent monsoon-sea.

As evidence of Harappan relations with Mesopotimia in Akkadian times, roughly contemporary with Hissar III and Anau III, may be cited several Harappa square seals, pieces of Harappa

13. They could have been even earlier, but in view of unscientific stratigraphy, based on an arbitrary datum-line related to Karachi sea-level, one can hardly be sure.

conch-shell inlay-work and a scratched representation of a humped bull. Another interesting item was a die, spotted in the typical Harappa fashion i.e. 1 opposite 2, 3 opposite 4, 5 opposite 6,—quite unlike the modern system where two opposite sides total up to seven. Special mention may be made of a Harappa sealing, bearing the imprint of coarse cotton cloth,—eloquent testimony to the antiquity of Indian textile trade.

There is frequent mention, in Sumerian documents, of Dilmun, which probably was the name by which the Sumerians knew Harappa. Ur-Nanshe, King of Lagash (c. 2400 B.C.), referred to timber-carrying Dilmun boats. Sargon of Akkad spoke of Dilmun ships anchored at his capital. While recently published documents of Ur talk of ivory and ivory objects, brought in by boats from Dilmun, an unpublished tablet calls Dilmun an important city-state, to which the peoples of the entire civilised world took their goods,—Turkish, Meluhha, Magan, the 'sea-land', Elam and Sumer. This text further says that Dilmun was a city with great buildings and a land rich in barley, dates and timber. That Dilmun was no ordinary place but one to which the Sumerians had special attachment could be gathered from their flood-myth, according to which Ziusudra, the Sumerian Noah, was translated by the gods to live as an immortal to Dilmun,—"a place where the sun rises"—which, according to their own tradition, was the place of their origin. While a Danish archaeological expedition, working on Bahrain island, generally identified with Dilmun, has so far not succeeded in unearthing any really worth-while evidence, the Dilmun-Harappa equation appears very plausible.[14]

The items of export from Dilmun, mentioned in the Sumerian documents, are indeed interesting. To judge by the millions of baked pots and burnt bricks left behind, the Harappans must have used timber aplenty. They, nevertheless, seem to have had enough surplus for export. In regard to ivory India was the sole world supplier till about the beginning of the christian era, when negligible competition from Ethiopia started. Indian ivory was ousted from world markets only in recent times by the fine-grained equatorial African variety. Indian ivory monopoly apparently

14. Kramer, Letter, captioned "Dilmun — Harappa", to the Editor, *The Times of India,* dated Jan. 29, 1961.

began in the palmy days of Harappa, already when, to judge from skeletal remains and glyptic art, the elephant had been domesticated.

What could have gone in return from Akkad to Harappa is difficult to determine,—probably haematite, the red iron oxide, from the Persian gulf islands. The three cylinder-seals found at Mohenjo-daro, though locally made, were no doubt inspired by Sumerian tastes, for there is nothing more distinctive of Sumerian culture than the cylinder-seals.

For some scholars the quest for Harappan foreign contacts ends here, for they do not think that Harappa culture, as we know it in its mature phase, was much older than Akkadian times. They would give it utmost another couple of hundred years and place its lower limit at 2500 B.C. Any earlier Indian contact with the west is credited to the South Baluchistan Kulli culture. Since its later phase, as proved by points of contact, was contemporary with Harappa, its earlier stage, it is argued, must ante-date Harappa. This conclusion does not follow. If digging has been stratigraphically unsatisfactory in the Indus valley, it has not been very much better in Baluchistan. True, Fairservis's recent excavations at Kile Ghul Mohammad and Damb Sadaat (Quetta valley) and Sur Jangal (North Baluchistan) have confirmed and completed the earlier findings of Ross, who established sequences at Rana Ghundai by not really scientific excavation but prolonged observation of the mound's strata, exposed in complete cross-section by manure-hungry villagers. Fairservis's work has also confirmed Beatrice de Cardi's reconnaissance in Central Baluchistan. In South Baluchistan, however, things have hardly changed since Stein's survey and random trenching as e.g. at Mehi and Shahi-tump, and Hargreaves' work at Nal. We are not aware of the beginnings of South Baluchistan Kulli culture. It might well be later than the known phase of Harappa and the latter's influence might well have crossed the western hills only towards the fag-end of the former. There are no means of defining the position at present.

Moreover, there is no evidence at all that South Baluchistan boasted of such major ports as could harbour sea-going craft. Possibly there were a few fishing villages between Gwatar bay and Gwadar, but no harbours with dockyards that could compare with Lothal. At the moment, therefore, there is nothing at all by way

of evidence to prevent our considering any Indian relations with the west prior to 2500 B.C. as Harappan.

Of Harappan contact with the land of the twin rivers and Elam in Early Dynastic times there seem to have been quite a few instances. The scarlet ware,—so called from the bright red paint used in addition to the black,—that turned up at Susa, Khuzistan, Musyan and also the Diyala region near Baghdad, and that depicted animals, like goats, black buck and even the *bos indicus,* among spiked trees, was obviously Indian-inspired with regard to not only the objects painted but even the composition. A Sumerian scarlet pot contained a scene of bull-worship, than which there could be nothing more characteristically Indian. On a steatite cup from Tell Agrab was found carved an Indian humped bull. On a cylinder-seal from Ur,—nothing more typically Sumerian,—was cut a humped bull,—nothing more typically Indian. A cylinder-seal from Tell Asmar with exquisite carvings of an elephant and two each of rhinoceros and crocodile, done in typical Harappan style, is noteworthy.[15] At Susa were found clay figurines of the humped bull, pots painted with the bull design and asphalt vases with the bull in relief. From Ur came a chain of golden pipal leaves,[16] as obviously Indian as the humped bull.[17] The identification with Indian teak of a piece of wood, found in the ruins of a temple to the moon goddess at Mukheir, is of great interest.

Of over thirty seals with Harappa script signs, recovered from various Mesopotamian sites, only a dozen are assignable to dated levels. Most of these are definitely Akkadian or post-Akkadian. How many are pre-Akkadian is a matter of controversy. But even the most conservative opinion ascribes one or two to pre-Sargonid, i.e. at least Early Dynastic times.[18]

15. cf. Frankfort, "The Indus Civilisation and Near East," *Annual Bibliography of Indian Archaeology,* 1932, p. 3 and pl. 1.

16. Not beech leaves, as Woolley summarised.

17. From one of the Royal tombs of Ur was picked up the statue of a squatting monkey, — a native of India and not Iraq — similar to one found at Mohenjo-daro.

18. Of the round stamp seals discovered by the Danish Bahrain expedition some from Ras al-Qala's with naturalistic representation of animals, including bulls, and one with the Indus script have tentatively been assigned to Early Dynamic and Sargonid periods. From Abu Dhabi came black on red or grey ware with the humped bull design.

Stone vessels elaborately carved with realistic representation of huts,—complete with woven matting walls and reed-bundle doorways,—came from Mari just over the Syrian border, Khafajah, Lagash, Adab and Susa. Another class of vessels with carving in imitation of basketry or woven fabric turned up at Susa, Kish and Ur. They are all dated in the Early Dynastic III period. Both types were found in the Bampur region and at Mohenjo-daro. The latter yielded the 'hut-pot' from the lowest level and the other variety from a late level. Only the second type came from the Kulli culture of South Baluchistan. Of the two views regarding these vessels one has it that they were Sumerian in origin and that the second type evolved from the first. The Bampur specimens were only second-rate copies, where the matting wall and doorways, though roughly executed, can still be recognised, whereas the Kulli and Mohenjo-daro (late level) ones were third-rate imitations, where the hut has completely disappeared. The vessel from the early levels of Mohenjo-daro must have been a direct import from Sumer. This deduction does not compel conviction, for the later Mohenjo-daro specimen could very well have been derived from the earlier one, about which there is nothing particularly Sumerian. The other view, which does not make much of the distinction between the types of 'urns', considers them as having originated in Kulli and spread abroad. The find from the earliest known Mohenjo-daro level is dismissed with the facile explanation that the level in question was later than the earlies phase of Kulli, —*quod est probandum.* There is nothing to show that the stone vessels which might have carried some unguent, redolent with spices,—a typical Indian export through the ages,—were not products of the Harappa civilisation.

Dynastic Egypt,—equated chronologically with Early Dynastic Sumer,—seems to have had contact with Harappa. Towards the close of the preceding Gerzean period, there was a profusion, in Upper Egypt, of objects of ivory, culminating in its lavish use in the Dynastic pyramids. The limited use of the product in early Gerzean and Amratian (pre-Gerzean) times could be explained by small local (African) supplies. But the prodigality witnessed from the end of Gerzean could be accounted for only by additional imports from abroad. In the ancient world only Ethiopia, besides India, was credited with ivory supplies,—equatorial African ivory was unheard of then. Ethiopian, however, must have been meagre,

for domestication of the elephant,—a *sine qua non* for large ivory stocks,—was unsystematic in Ethiopia even as late as the 6th cen. A.D. The traveller, Cosmas, Indikopleustes, has testified to that. *A fortiori* Ethiopian supplies to Dynastic Egypt must have, indeed, been extremely restricted. Egypt, however, could have got her requiremens from India, where archaeological proof can be adduced for elephant-domestication even in Harappan times.

Of Harappa pre-Dynastic contact with Sumer some seals may be noted as evidence. One with Harappan script came from a pre-Dynastic grave at Ur.[19] Frankfort's list of Sumerian cylinder-seals contains at least three,[20] depicting elephant-like creatures. One[21] of them from Jemdet Nasr levels (c. 3000 B.C.) is particularly signicant. The Sumerian glyptic artist had cut a group of animals, one of them the *taurelephantus,* a composite beast with the body and horns of a bull and the head and trunk of an elephant. The elephant-part at least of the animal was obviously Indian-inspired. In fact, quite a few Indus seals carry the representation of an almost similar composite being with the easily recognisable bull's horns and legs and elephant's trunk. Notice also a Jemdet Nasr cylinder-seal with thirteen unicorns carved in the typical style of several Harappa seals.

The lion-hunt stele recovered from the Jemdet Nasr level of Uruk is of capital significance. The hunters are dressed like Semites. Lions, however, never dwell in the desert to which the hunters apparently belonged. Neither was Sumer a habitat of lions. The quest for the home of these beasts has led scholars to Upper Egypt, where certain objects of the Gerzean culture, contemporaneous with Jemdet Nasr and Late Uruk in Sumer, have turned up, which exhibit similarities with the Mesopotamian lion-hunt stele. The Jebel el-Arak ivory knife-handle and the Hierakonpolis tomb frescoe contain, besides others, the representation of a man dompting lions. In the former case the dompter, obviously Asiatic, looks like the Semite on the lion-hunt stele. It has been suggested that the Semites inhabiting the desert intervening Egypt and Sumer acted as carriers of ideas between two nascent civilisations. The

19. cf. Woolley, *The Royal Cemetery,* p. 335.
20. Frenkfort, *Cylinder Seals,* Pl. V, p. Pl. VI b and c.
21. *Ib.* Pl. VI c.

implication is that the animal on the lion-hunt stele must have gone from Africa. The lion-fight theme, however, was thoroughly foreign to Egypt and went there, most scholars admit, from Mesopotamia, where it was quite at home. But a close scrutiny of the relevant Egyptian representations reveals certain discrepancies. The long-haired, long-maned lions and the heavily clothed dompter of the Gebel el-Arak knife-handle are not exactly the same as the hairless beasts and the nude man of the Hierakonpolis tomb. The former composition evokes a cold climate like that of the Levant, while the latter recalls a hot and humid habitat. The ivory-carver's inspiration was obviously Levantine, say, Syrian. But no lion-fight documents have turned up in the Levant. The Egyptian carver, it is hence evident, got his theme not straight from Mesopotamia but via Syria. The Egyptian tomb painter, however, would have been directly indebted to Sumer.[22]

And yet, as the lion was foreign to Mesopotamia, could it be that the Sumerian lapidary got the idea of the lion alone from the Levant or Africa to use it for cutting a scene of Semites, — or Sumerians, as some think, in Semitic guise, — hunting lions? Not from the Levant, since the animal is not long-haired. Not likely from Africa either, since the lion is unrepresented in any Egyptian records prior to the ones under discussion; in fact the lion enters Egyptian art in a conspicuous manner only from Pharaonic times. The probability, therefore, is that the Mesopotamian stele-cutter obtained the idea of the lion from India, — the only place other than the Levant and Africa, — where the animal, though perhaps of foreign origin, has had a long existence and even figures in a few Harappan seals. At least two of these, with lion[23]-fighter legend, recall to mind the well-known Sumerian series of Gilgamesh seals depicting the fighter, sometimes with lions and at other times with other animals, even composite,—a theme so characteristic of Sumerian civilisation and bequeathed as an heirloom to all subsequent Mesopotamian culture and even to Egyptian, as noted earlier. The Sumerians apparently received not merely the idea of the lion but even the lion-fight theme itself from India.

22. The lion-fight theme, as represented on the Egyptian tomb-wall could very well have gone direct from India — as shown later, — as ivory did.

23. Some identify the beast with the tiger but the lion's mane is recognisable.

Some scholars claim that the famous Mesopotamian lion-hunt stele[24] really belonged not to the Jemdet Nasr but the preceding Uruk period and later on incorporated in a Jemdet Nasr construction. If this contention were true, it would push Indo Sumerian relations right back to the very dawn of urban civilisation in the land of the twin rivers.

The foregoing data point to Sumerian with Indian habits and Indian settlers with Sumerian tastes. Both contingencies are but to be expected, as often happens when people of one land migrate to another. There is invariably an exchange and ultimately a borrowing of ideas. No immigrants can live completely isolated from and thoroughly insulated agains their new environment. Likewise, no community can be impervious to influences from foreign settlers. One can, therefore, easily, visualise an Indian trading community in Sumerian ports, with a cult of its own endeavouring to maintain its distinctive culture, while at the same time trying to adapt itself to the strange surroundings and passing, in the bargain, a part of its own heritage to the hosts, — a picture persisting through perhaps the Uruk but surely the Jemdet Nasr, Early Dynastic, Akkadian, Assyrian and Babylonian times. The Indian colonists, scattered over Sumer, as attested by thirty-odd Harappa seals, were no doubt, merchants, hailing mostly from Kathiawar-Gujarat, with Lothal as focal point, and acting as agents for their Indian principals, — a tale repeated innumerable times in various lands during the course of centuries right down to the present day.

Here apparently the searcher for Harappan ties with the world outside cries a halt. The delving into the dark recesses of a dim past led him down to definitely the Jemdet Nasr and probably the Uruk period of Sumer, to at least late, if not early, 4th. millennium B.C. But the farther back he had gone from Harappa's end the thinner got the evidence. He had to deliberately shy away from scores of similarities, going, on the Sumerian side, well into pre-Dynastic times, in e.g. script symbols, ethnic traits, burial customs, brick architecture, toilet accessories, fishing tackle, metal-

24. It is supposed to have been a votive offering originally made to an Uruk temple.

casting, bead-etching, domestic decoration, dressing patterns, pottery motifs, sculptural details, etc., because there was nothing unequivocally Indian or Sumerian about them and, therefore, the direction of dispersal, if any, was difficult to judge. Their cumulative significance either way could be relevant only in the context of a settled Harappan chronology. A more intensive burrowing into West-Asian records for incontrovertibly Indian imports, — most important as providing indisputable chronological *points du* depart without the disconcerting time-lag and consequent scaling down of dates, usually argued in the case of foreign finds in India, — should prove more fruitful. Digging and more digging will, as Wheeler said in another context, ultimately solve the problem.

Finally a few conclusions. In almost the middle of the huge fertile crescent, bounded by the Nile and the Indus, a regular succession of cultures from the palaeolithic to recent times has been traced; in 1953 Dr. Ralph Solecki of the Smithsonian Institute cut a shaft 4′×4′×26′ in the cave of Shanidar in Northern Iraq and proved continuous occupation from Neanderthal times (c. 60,000 B.C.). to the beginning of the christian era. In several places of the wide area, e.g. Tasa and Fayum in Egypt, Wadi al Natuf and Jericho in Palestine, Mersin in Cilicia, Hazilar in Turkey, Tell Hassuna and Jarmo in Mesopotamia, Tepe Sialk in Persia the transition from a hunting and food-gathering economy to food-production had been, but not necessary at the same time. The earliest has been dated c. 6000 B.C. The passing from the use of stone to metal (copper) or, in other words, from self-sufficient agricultural production to a surplus economy, that could sustain a part of the population not directly engaged in food-production but in other occupations, including arts and crafts, in fact, from a simple culture to a complex civilization had also been effected in the same region, resulting in the establishment of a number of flourishing urban communities, surrounded by several satellite-villages.

This archaeological record is corroborated by botanical and zoological evidence. In the Near East the wild grasses, from which the first food crops, namely, wheat and barley, were grown, have been found. Moreover, the wild varieties of the domesticated sheep, goat and cattle have been identified in this region. The

conclusion is, therefore, drawn, on the theory of 'zoning' of cultures, that, as simple agricultural life must have begun the earliest in the middle of the said region, namely Iran-Iraq, its occurrence in neighbouring areas must be accounted for by migration or borrowing. And so, the Baluchistan and Indus valley farming cultures like Quetta, Zhob, Kulli, Amri etc., and ultimately the Harappa civilisation itself must have their beginnings in the Near East.

Plausible as it is, the conclusion is rather premature. Because of the flying start archaeological work got off to in Western Asia the results obtained there have far outstripped those in India. Though excellent achievements, qualitatively easily on a par with those of technically better equipped nations, can now be credited to the Indian archaeological survey and other institutions, plenty of leeway has yet to be made to catch up with the Near and Middle East. While full reports on some Indian excavated sites are not yet available, there is no knowing what is in store for us in other explored and partially dug-up ones. Small wonder, hence, the prehistoric panorama has many a hazy horizon. We are, nevertheless, able to distinguish certain broad stages of man's ancient activities.

The first was an early stone age, — archaeologists, by the way, are still argueing about an appropriate terminology for the Indian lithic cultures, — almost as old as the latter half of the European lower palaeolithic. After a considerable time-lag followed the middle stone age, roughly contemporary with the European upper palaeolithic. After yet another long interval came the microlithic, widespread in both time and space and rather modestly estimated to have started about 4000 B.C., — a date fixed for implements found embedded in fossil sand-dunes (*teris*) at the southern land's end by correlation with ancient sea-levels. The possibility, however, of some of the *teri* material being older has not been ruled out. Likewise, an earlier date, supported by geochronological data, has been suggested for the Birbhanpur (Damodar Valley) microlithic industry. Later began the neolithic, which ushered in settled farming conditions.

Proof, however, of an early transition from the hunting stage to that of agricultural settlement is hard to come by. The pro-

blem gets pretty complicated by not only the considerable overlaps of the earlier stone cultures into the later ones but also the presence of numerous 'modern ancients', who still live in varying stages of stone age environment and the emergence of some of whom into the neolithic was obviously quite recent. And yet, at e.g. Utnur in the southern Deccan and Nurzahom in Kashmir (with c. 14 dates of c. 2300 and 1900 B.C. respectively) the transition seems proven. Though the polished stone axe is considered a concomitant of the Indian neolithic complex, yet its presence seems, on Near-Eastern analogy, unnecessary for proving the transition from hunting to agriculture. The Langhnaj (Gujarat) evidence, therefore, of pottery, grain-grinding equipment and animal domestication, associated with an essentially microlithic industry, could indicate that the folk were early on the road to food-production. C. 14 dating here would be most valuable.

The primitive plants and beasts, from which the cultivated food grains and domesticated animals respectively came, have all been found in India or its immediate neighbourhood. At Harappa were grown bread wheat and barley. The wild grasses, from which bread wheat arose are not known, but the most primitive cultivated varieties are grown today, among various places, in Kashmir and Western India. The wild varieties of barely, from which the cultivated ones have been derived, are still to be found in North Afghanistan besides other places. Of the Harappa domesticated animals the humped bull, elephant and water-buffalo were typically Indian. Animals common to India and the Near-Eastern agricultural communities were the dog, goat, sheep, pig, cat and ass. The camel found in Harappa was not known to the original farming settlements of Western Asia. Were archaeology, therefore, able to prove definitely an early transition in India from hunting to herding and farming, corroborative evidence from botany and zoology seems available.

The 'zoning' concept, so assiduously upheld by some, appears workable in regard to restricted areas but could be misleading, when applied to far-flung regions. If the theory of a single centre of dispersion, from which agriculture spread elsewhere, were reasonable, that of several centres, where agricultural experiment succeeded, is not less so. Given the environment following the final retreat of the Pleistocene ice-sheet, man could have made

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